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AGRICULTURAL AND FOOD MARKETING MANAGEMENT

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I.M. Crawford

This publication has previously been issued as
ISBN 92-851-1003-7
by the FAO Regional Office for Africa.

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M-62
ISBN 92-5-103904-6

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Preface

This textbook, Agricultural and Food Marketing Management, was prepared by staff of the Network and Centre for Agricultural Marketing Training in Eastern and Southern Africa. The Centre had the objective of strengthening agricultural marketing training in Eastern and Southern Africa. It was funded by the Government of Japan and executed by the Food and Agriculture Organization of the United Nations. Based in Zimbabwe, but also serving Kenya, Malawi, Tanzania and Zambia, the Project was able to draw upon the collective experience of eminent academics, government policy markets, experienced managers in agricultural marketing parastatals and pragmatic entrepreneurs from the private sector of agribusiness. The Project extended over a five year period, from May 1990 to August 1995, and during that time amassed a wealth of information on marketing practices with in the food and agricultural sectors with in the Sub-Saharan. In the first instance, this information was published, by the Project, as a series of proceedings, from workshops, and teaching manuals written by regional and international experts in the twin fields of food and agricultural marketing.

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- Basic Finance For Marketers
- Agricultural And Food Marketing Management
- Global Agricultural Marketing Management, and
- Marketing Research And Information Systems.

These texts are primarily designed as an aid for those teaching marketing as it applies to food and agribusiness. The material is therefore relevant to students of agricultural marketing, agricultural economics, agribusiness, management and business studies They are suitable for undergraduate and postgraduate degree courses, as well as vocational and in-service short courses.

Features of the textbook

The learning process is assisted within the text through the provision of a number of learning aids. Each chapter has:

Chapter objectives	-	an outline of its objectives in terms of what the reader can expect to learn from reading the particular chapter.
Chapter summary	-	a summary which encapsulates the main points of the chapter. The summary should prove useful to students wishing to quickly revise the topics within the chapter.
Key terms	-	the most important terms are listed at the end of each chapter and are intended to act as an aide-memoire.
Review questions	-	each chapter concludes with a series of questions which readers can use to test their knowledge of the material contained with in the chapter.
References	-	other works upon which the author has drawn in writing this textbook are fully referenced as an aid to students seeding to extend their knowledge of a given topic.

Glossary

- at the end of the textbook there is a ready reference to the most important terms and concepts. The glossary should prove especially useful to those readers who are new to the subject of marketing since it gives a brief explanation of these terms.

Additional material

The text is complemented by an additional set of learning and teaching aids. These include a tutor's manual and a set of overhead transparency masters.

Acknowledgements

The author wishes to acknowledge the contribution of Ms. Sophie Tsoka who was responsible for the design and production of the visual material both in this textbook and the accompanying overhead transparency masters. Thanks are also due to Mr. Edward Seidler and Mr. Andrew Shepherd of FAO for their critical review of earlier drafts of the text. Lastly, the author takes this opportunity to express his gratitude to Kathryn Greenhalgh, Margaret Bowler and Diane Wallace for their painstaking work in proofreading the draft manuscript.

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M-62
ISBN 92-5-103904-6

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Chapter 1

Agricultural And Food Marketing

As individuals within a society become more specialised in their economic activities, they come to rely upon others to supply at least some of the products and services which they need. Thus begins a process of exchange between buyers and sellers. For a while buyers and sellers remain in immediate contact and each party is able to determine what the other needs and values and, therefore, will be willing to exchange. As the economy develops the number and types of exchanges expand, there is a concomitant need for increasingly specialised marketing services such as physical distribution, storage, grading, market information gathering and so. The number of participants also increases with many of the specialised services being provided by intermediaries between the seller and ultimate buyer. Few buyers and sellers are in direct contact with one another and communication between them is channelled through a complex marketing system. This introductory chapter is devoted to exploring the nature of marketing and marketing systems.

Chapter Objectives

This chapter is intended to help the reader understand:

- The relevance of marketing to the agricultural and food sectors in developing countries
- The meaning of the marketing concept
- Why it is necessary to implement the marketing concept throughout food and agricultural marketing systems
- The functions of marketing, and
- The modes of operation of some of the major types of agricultural and food marketing enterprises

Structure Of The Chapter

The opening section pursues an argument as to why marketing is of increasing importance to the food and agricultural sectors in developing countries. This leads into an explanation of the concept of marketing. The nature of marketing systems is also discussed. This is followed by a description of the principal functions of marketing and suggestions as to how these can be conducted in a customer orientated fashion. Consideration is then given to the changes that development will bring to the food industries of developing countries and the implications for agriculture as the supplier of raw materials to these industries. The remainder of the chapter is devoted to an overview of the operations of the principal forms of agricultural and food marketing enterprise to be found in developing countries. In addition to private enterprise, the operations of marketing boards and co-operatives are discussed.

The importance of agricultural and food marketing to developing countries

In many countries, and virtually every less developed country (LDC), agriculture is the biggest single industry. Agriculture typically employs over fifty percent of the labour force in LDCs with industry and commerce dependent upon it as a source of raw materials and as a market for manufactured goods. Hence many argue that the development of agriculture and the marketing systems which impinge upon it are at the heart of the economic growth process in LDCs.

Moreover as Kriesberg¹ points out; in LDCs the consumer frequently spends in excess of fifty percent of the household's income on basic foodstuffs - much of which is inadequate both in quality and nutritional content. By contrast Americans spend approximately twelve percent of their total disposable income on food. In Western Europe the figure ranges from about sixteen to nineteen percent of disposable income. Furthermore, whereas in developed countries the poor are relatively few in number, and therefore it is economically possible to establish special food distribution programmes to meet their needs, the scale of poverty in most LDCs is such that the commercial marketing system must be relied upon to perform the task of food distribution to poor and not-so-poor alike. This being so, it is imperative that the marketing system performs efficiently.

Economic development itself provides the impulse towards more sophisticated and more efficient marketing systems. Dixie² suggests that as countries experience economic growth, their rate of urbanisation tends to increase substantially. Whereas the rate of population growth, in developing countries, averages around three percent per annum, their cities and towns are increasing their populations at about four percent per annum. In essence, this means that the number of people, in urban areas, needing to be fed by rural people, will double within sixteen years. This has clear implications for agricultural production and the marketing systems that direct that production and distribute the output to the points of its consumption. Subsistence farming is likely to diminish in importance as farmers respond to the increased opportunities that development and urbanisation create; farms are likely to decrease in number whilst increasing in size; and agriculture will probably become less labour intensive and more capital intensive.

Dixie also highlights the potential contribution of agricultural and food marketing, towards attempts to improve rural incomes in developing countries. The inequality of incomes between the rural and urban areas draws people away from agricultural production and places great stress upon the infrastructure and social services of a country's towns and cities. Nowhere was this more dramatically demonstrated than in Nigeria when petroleum oil was discovered and then exploited in the 1970s. A large number of jobs were created in the urban areas and people abandoned agricultural production in large numbers. Nigeria became a net importer of many agricultural products of which it had formerly been a net exporter. For as long as the world price for petroleum remained high the economy thrived and could well afford the food import bill. However, as soon as the world price for oil fell, the food import bill became a serious burden. Nigeria would only have avoided this scenario if it had been able to motivate people to continue in agriculture and this would only have been possible if the disparity between urban and rural incomes had been reduced. Rurally based enterprises, including small-holdings, can greatly improve their earning potential by adopting a market orientation. They can be encouraged to add value to commodities by adding to their utility. Value added products normally carry a higher margin than raw commodities.

Another development which has in recent times increased interest in marketing practices is the trend, in many developing countries, towards market liberalisation as part of economic structural adjustment programmes (ESAPs). The view that direct and indirect government participation in production and distribution had brought about structural distortions in economies has become widely accepted. Measures intended to correct these distortions include a return to market prices for all products and resources, the encouragement of a competitive private sector and the commercialisation, and sometimes privatisation, of all or some of the functions of marketing parastatals. All of this requires a better understanding of marketing practices and processes within the country implementing ESAPs, in general, and within the agricultural marketing parastatals affected, in particular.

So far this discussion has been set in the context of commercial marketing but social marketing should also be acknowledged. Social marketing identifies human needs in non-competitive economies and/or sectors of society and defines the means of delivering products and services

to meet these needs. The marketing mix of social marketing strategies is evaluated using quite different criteria from those employed in assessing purely commercial marketing strategies. Criteria such as the percentage of the target population reached with the technology, products, processes or services, quantities produced and distributed and uptake of the product, service or technology are more often employed. Benefits are measured in terms of development goals, such as improved nutritional status or increased rural incomes. The use of economic criteria is usually limited to the latter and to selecting the least-cost strategy to achieve a quantitative goal. However, the criteria used to evaluate commercial marketing strategies should not automatically be eliminated, because these improve the efficiency of some aspects of social marketing strategy without preventing the attainment of social objectives.

The marketing concept and marketing systems

Marketing is not simply an extension of the production process but its only purpose as Adam Smith emphasised when, in his text *The Wealth of Nations* (1776), he said that:

“Consumption is the sole end purpose of all production: and the interest of the producer ought to be attended to only so far as it may be necessary for promoting that of the consumer.”

Dixie² relates what he describes as a definition of marketing which is:

“The series of services involved in moving a product (or commodity) from the point of production to the point of consumption.”

This is a definition which many organisations, and governments, would recognise as describing their own activities in commodity marketing. Indeed in many developing countries it aptly describes, or in some cases, did in the past describe, the functions carried out by marketing parastatals with respect to staple foods. However, as Dixie himself points out, the definition omits two key elements of any definition of marketing production to effuse the marketing concept, i.e. a customer orientation and inbuilt sustainability. Gaedeke and Tootelian³ offer an alternative definition which overcomes the problems caused by these two omissions:

“... a management orientation focusing all the activities of the organization on satisfying customer needs and wants, thereby helping achieve the organization's long-range objectives.”

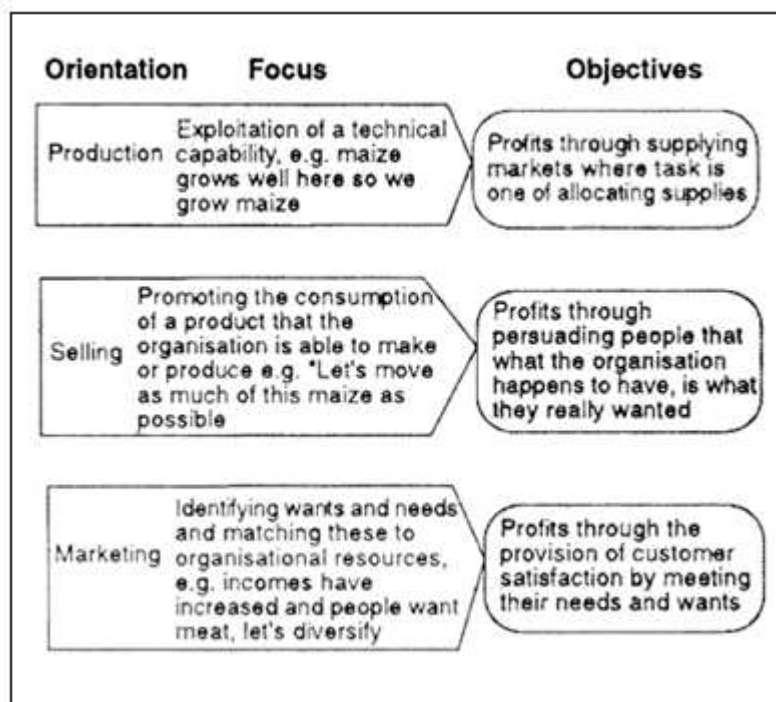
This definition promotes a customer orientation and since the organisation's long-term objectives will include its own continued existence it takes account of the need for sustainability. Moreover, this definition of the marketing concept does not preclude non-profit making organisations. Marketing is just as relevant to development projects, aid agencies, extension service organisations, and the like, as it is to commercial enterprises. Thus the marketing concept is that an organisation achieves its goals through the provision of customer satisfaction. Put another way, marketing is the integrative force that matches production to customer needs and satisfaction. Marketing is not an activity to which an organisation turns its attention at the end of the production phase of operations. Rather marketing needs to be directing production in accordance with clear signals from the marketplace as what is needed by customers.

The marketing concept must be adopted throughout not only the entire organisation, but the entire marketing system. A system is a complex of interrelated component parts or sub-systems which have a defined common goal. Thus, an agricultural and food marketing system comprises all of the functions, and agencies who perform those activities, that are necessary in order to profitably exploit opportunities in the marketplace. Each of the components, or sub-systems, are independent of one another but a change in any one of them impacts on the others as well as upon the system as a whole.

There is a danger that the marketing concept will be adopted by some parts of the system but not others. Thus, for example, a food manufacturer may be trying hard to implement the marketing concept and offer products that meet the precise needs of a target market. If, however, the

manufacturer has to rely upon a farming community that is still very much production oriented, for raw material supplies, then the overall marketing objectives may be frustrated. In the same way, if only some functions are performed according to the marketing concept then the system as a whole may not achieve a market orientation. For instance, the marketing department may set out to serve the market for a high quality fruits and vegetables, for which it can obtain premium prices, but if transportation is performed using the same open-topped bulk carrying wagons used to ship grain and other aggregates then it is unlikely that the enterprise will deliver the product in the right condition for the target market.

Figure 1.1 Alternative business philosophies

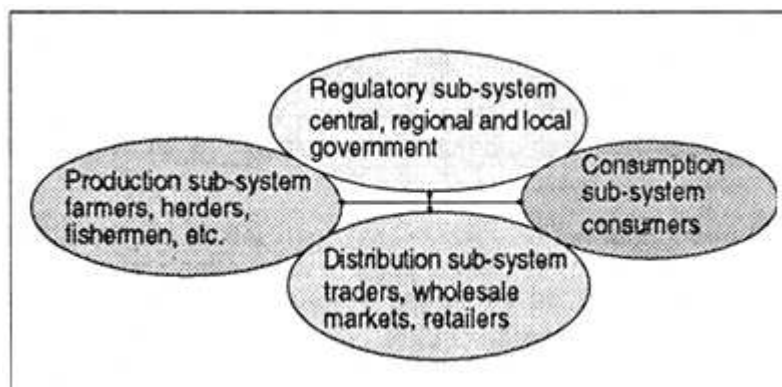


The lesson from all of this is quite simple. If the decision has been made to adopt the marketing concept, then consideration has to be given to the implications for each of the participants and the functions performed within the marketing system. Where one or more elements of the system are found to be other than market orientated, then either a change towards the marketing philosophy has to be introduced in those elements or a change in the configuration of the marketing system has to be implemented.

Marketing Sub-systems

Rosson⁴ conceives of agricultural and food marketing systems as consisting of 4 main sub-systems; production, distribution, consumption and regulatory.

Figure 1.2 The subsystems of a marketing system



The key players in the chain of activities that connect food and agriculture are the farmer, (or other 'producers' such as fishermen), intermediaries, the food processors, and the consumer. In practice they each see the agricultural/food marketing system from a perspective of self-interest and these interests are sometimes in conflict. Illustrative examples of some of the conflicts which typically arise are given in table 1.1.

Table 1.1 Conflict of interest in agricultural/food marketing systems

Key Players	Interests
Farmers	Maximum price, unlimited quantities
Manufacturers	Low purchase price, high quality
Traders and retailers	Low purchase price, high quality
Consumers	Low purchase price, high quality

The farmer's interest is focused on getting the best return from his produce, which usually equates to maximum price for unlimited quantities. Manufacturers want least cost, best quality produce from the farmer so that he can sell it at competitive, but profitable, prices. Traders and retailers want high quality and reliable supplies from the manufacturer or farmer, at the most competitive prices. Consumers are interested in obtaining high quality products at low prices. Clearly, there are conflicting interests here.

Case 1.1 Venezuela Is Overrun By Elephants!

It is said that when a senior member of his court seriously displeased him, the King of Siam would make that individual a gift of a white elephant. The white elephant is both rare and, in Siam, was considered sacred. Siam tradition did not permit white elephants to be worked and so the hapless owner could make no economic gain from ownership of this sacred animal. In fact, ownership of a white elephant usually led to financial ruin since the owner had to feed the sacred animal on a special diet and elephants tend to have rather a large appetite.

In the 1970s Venezuela invested US\$20 million in 6 cassava processing plants with a view to dehydrating cassava, already grown locally, and using it as an ingredient in animal feed. The intention was to substitute the local product for 21,600 tonnes of imported cereals (chiefly maize and sorghum) and create over 600 jobs. Moreover, cassava could bring marginal lands into production as this crop can flourish on soils that are too poor for sorghum or maize. All 6 cassava processing plants became 'white elephants'.

Government was pursuing an incongruous pricing policy. Manufacturers were being supplied with government subsidised imported feed grains, in order to keep retail meat prices down grains, in order to keep retail meat prices down. Local farmers could not compete since imported sorghum was delivered to the feed mills at US\$142 per tonne while domestic supplies were US\$151 per tonne. The situation got worse when the government announced a 30 percent increase in farmer prices.

Venezuelan feed manufacturers could obtain cassava pellets from Thailand at a lower cost than they could from local mills. Moreover, feed manufacturers who could buy sorghum at US\$150 per tonne were not inclined to purchase locally produced cassava pellets at US\$250 per tonne.

From the outset it was evident that the investment in cassava processing would be marginal in economic terms. The feasibility study suggested that after the tenth year the rate of return

would reach 11 percent and the internal rate of return would be only 7 percent. However, Venezuela had become an oil-rich country and capital was not in short supply. This perhaps explains why it was decided that the most technologically advanced equipment, from leading manufacturers, would be bought for the processing plants and that fuel oil would be used for drying rather than sun drying as in the most of the world.

Inadequate attention had been paid to the questions of raw material supply. In a 213 page report only 1 page touched on this issue. After all, Venezuelan farmers had a long history of growing cassava. However, there was no appreciable increase in the hectareage of cassava and farmers who could sell cassava for human consumption at US\$75 per tonne refused the best offer that the cassava processing mills could make of US\$45 per tonne.

Venezuela's cassava processing plants failed and became 'white elephants'. The planners of the project took little account of the marketing concept nor the nature of the marketing system. The needs of both the raw material suppliers, the farmers, and the feed manufacturers ought to have been carefully studied before the project was designed. There was no attempt to market the project to the farmers who continued to demand the same price for cassava destined for animal feed as they obtained for cassava processed for human consumption, even though the economics of the two sectors are quite different. No programme was instituted to promote the idea of planting additional areas of cassava. The economics of feed manufacturing were similarly ignored and so the cassava processors had difficulty in selling their pellets. Perhaps with a more appropriate level of technology the costs of producing cassava pellets could have been reduced to a point where they could compete with imported cassava pellets, sorghum and maize⁵.

Note: Elephants are not indigenous to Venezuela. The 'white elephant' is however found in virtually all countries of the world.

In an ideal world there should be some form of strategic partnership between these key players. It is obvious that, in the long run, any one of the four groups would find it difficult to survive if the others do not. However, in real life, attitudes are not those of the ideal world or of the longer term. It is focused more on the shorter term and in preserving the interests of each group. Only by allowing each group to take care of its interests, can a balanced longer term relationship evolve. This must be borne in mind when considering what the food industry expects from agriculture. Moreover, those expectations will vary according to the level of sophistication of the markets the food industry itself is attempting to serve.

Marketing functions

A little earlier it was said that a marketing system has two distinct dimensions. One of those dimensions is the institutions, organisations and enterprises which participate in a market and the second is the functions that those participants perform. Kohls and Uhl⁶ have classified the functions involved in agricultural and food marketing processes as under three sets of functions of a marketing system

- | | |
|---------------------------|------------------------|
| A. Exchange Functions | 1. Buying |
| | 2. Selling |
| | 3. Storage |
| B. Physical Functions | 4. Transportation |
| | 5. Processing |
| | 6. Standardisation |
| C. Facilitating Functions | 7. Financing |
| | 8. Risk Bearing |
| | 9. Market Intelligence |

Each of these functions add value to the product and they require inputs, so they incur costs. As long as the value added to the product is positive, most firms or entrepreneurs will find it profitable to compete to supply the service.

Exchange functions

Buying: The marketing concept holds that the needs of the customer are of paramount importance. A producer can be said to have adopted a market orientation when production is purposely planned to meet specific demands or market opportunities. Thus a contract farmer who wishes to meet the needs of a food processor manufacturing sorghum-based malted drinks will only purchase improved sorghum seed. He/she will avoid any inputs likely to adversely affect the storage and/or processing properties of the sorghum and will continually seek new and better inputs which will add further value to his/her product in the eyes of the customer. In making his/her buying decisions his underlying consideration will be the effect upon the attractiveness of his/her output to the markets he/she is seeking to serve.

The buyer's motive is the opportunity to maintain or even increase profits and not necessarily to provide, for example, the best quality. Improving quality inevitably increases the associated costs. In some cases the market is insensitive to improvements in quality, beyond some threshold level, does not earn a premium price. Under such circumstances, the grower who perseveres and produces a 'better product', is not market oriented since he/she is ignoring the real needs of the consumer. The most successful agribusiness is the one which yields the largest difference between prices obtained and costs incurred.

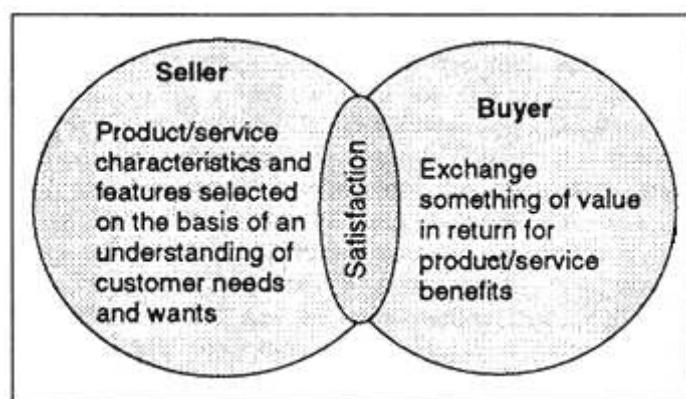
Selling: Of the nine functions listed, this is probably the one which people find least difficulty in associating with marketing. Indeed to many the terms marketing and selling are synonymous. Kotler⁷ suggests that:

"Most firms practice the selling concept when they have over capacity. Their immediate aim is to sell what they can make rather than to make what they can sell."

There is no denying that 'high pressure selling' is practiced, where the interests of the consumer are far from foremost in the mind of the seller. This is not marketing. Enterprises adopt the marketing philosophy as a result of becoming aware that their own long term objectives can only be realised by consistently providing customer satisfaction. Whereas selling might create a consumer, marketing is about creating a customer. The difference is that marketing is about establishing and maintaining long term relationships with customers.

Selling is part of marketing in the same way that promotion, advertising and merchandising are components, or sub-components of the marketing mix. These all directed towards persuasion and are collectively known as marketing communications; one of the four elements of the marketing mix.

Figure 1.3 The exchange function



Physical functions

Storage: An inherent characteristic of agricultural production is that it is seasonal whilst demand is generally continuous throughout the year. Hence the need for storage to allow a smooth, and as far as possible, uninterrupted flow of product into the market. Because he is dealing with a biological product the grower does not enjoy the same flexibility as his manufacturing counterpart in being able to adjust the timing of supply to match demand. It would be an exaggeration to suggest that a manufacturer can turn production on and off to meet demand - they too have their constraints- but they have more alternatives than does the agricultural producer. A manufacturer can, for example, work overtime, sub-contract work, and over a longer time horizon, the manufacturer can increase or decrease productive capacity to match the strength of demand.

In agriculture, and especially in LDCs, supply often exceeds demand in the immediate post-harvest period. The glut reduces producer prices and wastage rates can be extremely high. For much of the remainder of the period before the next harvest, the product can be in short supply with traders and consumers having to pay premium prices to secure whatever scarce supplies are to be had. The storage function is one of balancing supply and demand.

Both growers and consumers gain from a marketing system that can make produce available when it is needed. A farmer, merchant, co-operative, marketing board or retailer who stores a product provides a service. That service costs money and there are risks in the form of wastage and slumps in market demand, prices, so the provider of storage is entitled to a reward in the form of profit.

Transportation: The transport function is chiefly one of making the product available where it is needed, without adding unreasonably to the overall cost of the produce. Adequate performance of this function requires consideration of alternative routes and types of transportation, with a view to achieving timeliness, maintaining produce quality and minimising shipping costs.

Effective transport management is critical to efficient marketing. Whether operating a single vehicle or a fleet of vehicles, transportation has to be carefully managed, including cost monitoring - operations on different road types, fuel and lubrication consumption and scheduled and remedial maintenance and repair. Skillful management of all aspects of vehicle operations can also make a substantial contribution to efficient marketing especially with respect to optimum routing, scheduling and loading and off-loading; maximisation of shift hours available, maintaining the vehicle fleet at an optimum size, taking account of time constraints on delivery, and collection times and judicious management of vehicle replacement and depreciation. Transport managers also have to weigh the advantages and disadvantages of owning, hiring or leasing transport.

Processing: Most agricultural produce is not in a form suitable for direct delivery to the consumer when it is first harvested. Rather it needs to be changed in some way before it can be used.

Kohls and Uhl⁶ observe that:

“The processing function is sometimes not included in a list of marketing functions because it is essentially a form changing activity.”

However, it is for this very reason that processing ought to be included as a marketing function.

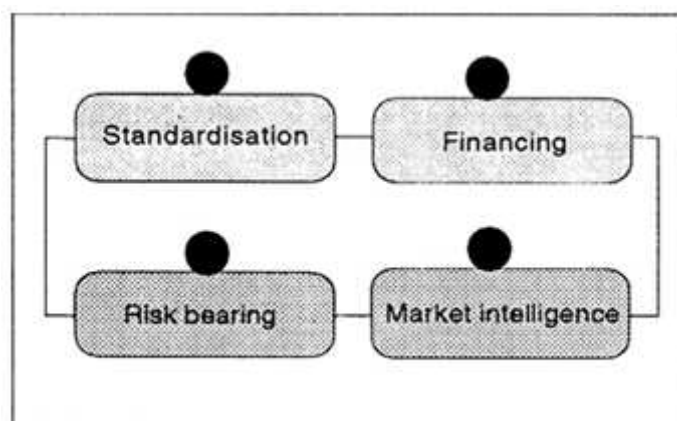
The form changing activity is one of that adds value to the product. Changing green coffee beans into roasted beans, cassava into gari or livestock feed, full fruit bunches into palm oil or sugarcane into gur increases the value of the product because the converted product has greater utility to the buyer. How the form of produce is to be changed and the method to be used in bringing about such changes are marketing decisions. For example, some years ago when Ethiopia was looking to expand its tea business, a prototype manufacturing plant was established. The plant was capable of curing the tea and packing it in individual tea bags. At that point, tests were undertaken in which the product was compared with others already on the market. The results were encouraging. However, in the course of the marketing research, it was also discovered that ninety percent of the black tea consumed is blended and not the pure variety placed in tea bags by the Ethiopians. By going past the point of changing green leaf into high quality black tea, the Ethiopians were entering a nice market which is not what they intended at all. Timely marketing research would have directed Ethiopia to stop the form changing activity short of bagging since, at that time, Ethiopia did not have the acreage of tea, nor the resources, to develop a tea blending facility of its own. In the same way, a producer of fresh fruits may have pulping and/or canning facilities but if potential buyers want the flexibility of using the fruits in a variety of ways, then these stages of processing serve to reduce utility and value, rather than increasing them.

Of course, processing is not the only way of adding value to a product. Storing products until such times as they are needed adds utility and therefore adds value. Similarly, transporting commodities to purchasing points convenient to the consumer adds value. In short, any action which increases the utility of the good or service to prospective buyers also adds value to that product or service.

Facilitating functions

The facilitating functions include product standardisation, financing, risk bearing and market intelligence. Facilitating functions are those activities which enable the exchange process to take place. Marketing, in simple terms, is the act of supplying products to someone in exchange for something perceived to be of equal or greater value, (usually, but not always, a given sum of money). Facilitating functions are not a direct part of either the exchange of title or the physical movement of produce.

Figure 1.4 The facilitating functions



Standardisation: Standardisation is concerned with the establishment and maintenance of uniform measurements of produce quality and/or quantity. This function simplifies buying and selling as well as reducing marketing costs by enabling buyers to specify precisely what they want and suppliers to communicate what they are able and willing to supply with respect to both quantity and quality of product. In the absence of standard weights and measures trade either becomes more expensive to conduct or impossible altogether. In Nepal such was the diversity of weights and measures used with respect to grain within the country, that it was easier for some districts to conduct trade with neighbouring states in India than it was to do business with other districts within Nepal. Among the most notable advantages of uniform standards, are:

- price quotations are more meaningful
- the sale of commodities by sample or description becomes possible
- small lots of commodities, produced by a large number of small producers, can be assembled into economic loads if these supplies are similar in grade or quality
- faced with a range of graded produce the buyer is able to choose the quality of product he/she is able and willing to purchase.

Quality differences in agricultural products arises for several reasons. Quality differences may be due to production methods and/or because of the quality of inputs used. Technological innovation can also give rise to quality differences. In addition, a buyer's assessment of a product's quality is often an expression of personal preference. Thus, for example, in some markets a small banana is judged to be in some sense 'better' than a large banana; white sugar is considered 'superior' to yellow sugar; long stemmed carnations are of 'higher quality' than short stemmed carnations; and white maize is 'easier to digest' than yellow maize. It matters not whether the criteria used in making such assessments are objective or subjective since they have the same effect in the marketplace. What does matter in marketing is to understand how the buyer assesses 'quality'.

Financing: In almost any production system there are inevitable lags between investing in the necessary raw materials (e.g. machinery, seeds, fertilizers, packaging, flavourings, stocks etc.) and receiving the payment for the sale of produce. During these lag periods some individual or institution must finance the investment. The question of where the funding of the investment is to come from, at all points between production and consumption, is one that marketing must address. Consider the problem of a food manufacturer who wishes to launch a range of chilled products in a developing country where few retail outlets have the necessary refrigeration equipment. This is a marketing problem. It might be solved by the food manufacturer buying refrigerators and leading these to retailers (or arriving a hire-purchase arrangement with retailers).

A common marketing problem, in developing countries, is the low level of incomes leading to low levels of effective demand for many products. The challenge to marketing is to somehow channel what income is available into effective demand. In the case of agricultural equipment marketing this might involve offering hire-purchase schemes where the prospective buyer makes payment in regular installments. During this time he/she is deemed to have hired the machine. If payments are not forthcoming, the machine can be recovered since its ownership remains with the seller up until the final payment is made, at which point the farmer is considered to have purchased the machine. Alternatively, the seller might set up leasing, rather than purchasing schemes where again the farmer is making regular payments but never takes title to the machine. Where a food item is being marketed, to a low income market, the seller can consider reducing the unit price of the product by making the pack or lot size smaller. Another tactic is to make the product more affordable by using cheaper ingredients and/or packaging. Instant coffee can be sold at lower prices by substituting some of the coffee with chicory; the price of meat products is reduced by increasing the percentage of cereals in these products and including less meat and/or making use of less expensive parts of the animal such as entrails, offal, feet and head.

Marketing is also concerned with the financing of the enterprise itself. Here again some creative solutions can be developed. Where internal financing is insufficient for the purposes in view, an enterprise in a developing country can look to several alternatives including:

- development banks
- commercial banks
- shares issues
- credit co-operatives and/or credit unions

Where these sources of finance are considered inappropriate, or are simply not available to a particular enterprise, a strategic alliance in the form of a joint venture could be the answer. These are partnerships formed to exploit market opportunities more effectively and/or efficiently than

either party can on its own. An enterprise, in a developing country, may engage in a joint venture with either an indigenous partner and/or with a foreign partner. The agreement between parties to a joint venture normally specifies their respective contributions of resources, share of management control, profit and risk⁸.

Case 1.2 Massey-Ferguson Buys Its Own Tractors

Agricultural equipment manufacturers periodically undertake major revisions of their product lines. This is a very expensive process since the manufacturing plant required to produce agricultural tractors, combine harvesters, seed drills, straw balers and the like costs million of dollars. When the equipment manufacturer Massey Ferguson (MF) came to develop a completely new line of tractors, in the early 1980s, it sold its existing line of tractors to the state owned Polish tractor manufacturer Ursus in order to offset at least part of the cost of the new investment. The arrangement was rather novel for the industry at that time. Ursus was in such poor financial condition that it could not finance the purchase of the Massey Ferguson manufacturing plant and patents, so MF supplied the plant to Ursus and were to buy-back a proportion of the tractors which Ursus manufactured. They would continue to market these under the MF brand name whilst the remainder would be sold under the Polish manufacturer's name. Massey Ferguson planned to supply the older designs to markets in developing countries where these models continued to have a large market share whilst launching the new models in industrialised countries.

The agreement between Massey Ferguson and Ursus was modelled on a similar, and very successful, arrangement between the Italian automobile manufacturer Fiat and Poland's state owned car manufacturer. However, MF's deal never matched the performance of the Polski-Fiat. The failure of the MF-Ursus buy-back package had several causes, but foremost among them was the inability of Ursus to source components of the MF tractors which Massey Ferguson did not either manufacturer itself nor own the patents to. For example, the fuel injectors were manufactured by the British components supplier Lucas Industries. Poland simply did not have the foreign currency reserves, at that time, to import these and other parts.

Consequently, Ursus' tractor plant, on the outskirts of Warsaw, with the potential to produce 77,000 units per annum was able to manufacture around 350 units per year.

Whilst the MF-Ursus buy-back arrangement was not a success it should not be concluded that buy-back agreements are doomed to failure. The Polski-Fiat deal was, after all, a great success. The MF-Ursus failure was due to very specific circumstances. What should be concluded is that it is possible to devise innovative approaches to the financing of business enterprises.

Whatever the source of finance under consideration marketing has a role to play in evaluating the appropriateness of that source as well as identifying it in the first place. A common requirement is that marketing proposals include a forecast of the payback period. Those responsible for developing these proposals are best placed to evaluate the compatibility between the market opportunity under consideration and the alternative modes of financing it. Of specific interest is the prospect of the investment payback period matching the repayment schedule. Enterprises which finance long term investments through short term sources of finance are either badly

misinformed or have adopted a high risk strategy.

Risk bearing: In both the production and marketing of produce the possibility of incurring losses is always present. Physical risks include the destruction or deterioration of the produce through fire, excessive heat or cold, pests, floods, earthquakes etc. Market risks are those of adverse changes in the value of the produce between the processes of production and consumption. A change in consumer tastes can reduce the attractiveness of the produce and is, therefore, also a risk. All of these risks are borne by those organisations, companies and individuals.

Risk bearing is often a little understood aspect of marketing. For example, when making judgements as to whether a particular price is a 'fair price' the usual reference point is the producer or supplier's costs. However the risks borne are rarely taken into account by those passing judgement and yet, almost inevitably, there will be occasions when the risk taker incurs losses. Stocks will spoil, markets will fall, cheaper imports will enter the country, consumer tastes will change, and so on. These losses can only be observed if adequate surpluses were generated in previous periods. Risk bearing must be acknowledged as a cost since what is uncertain is not whether they will occur, but when they will occur.

Market intelligence: As far as is possible marketing decisions should be based on sound information. The process of collecting, interpreting, and disseminating information relevant to marketing decisions is known as market intelligence. The role of market intelligence is to reduce the level of risk in decision making. Through market intelligence the seller finds out what the customer needs and wants. The alternative is to find out through sales, or the lack of them. Marketing research helps establish what products are right for the market, which channels of distribution are most appropriate, how best to promote products and what prices are acceptable to the market. As with other marketing functions, intelligence gathering can be carried out by the seller or another party such as a government agency, the ministry of agriculture and food, or some other specialist organisation. What is important is that it is carried out.

Links between agriculture and the food industry

The link between agriculture and food continually evolves. In primitive societies, the farmer and consumer were either the same family or close neighbours who bartered their products and services as we see in figure 1.1, but as societies develop other linkages are added. Commodity traders, processors, manufacturers who convert produce into food items and retailers, among others, are interposed between the producer and consumer. A more recently introduced link into the chain is the scientist. Scientists as breeders, plant biologists, nutritionists and chemists have made an immeasurable contribution to the development of agricultural production and food manufacture over the past 50 years. It would appear that we have passed through the age of machines in agriculture, and the age of chemicals, on to the age of biotechnology in agriculture. Biotechnology has great potential for the developing countries since it is likely to be less capital intensive and more research and know-how intensive. Thus its benefits can flow faster into the poorer countries who do not have the capital. Therefore its impact could be faster, more widespread and more significant.

As the link between food and agriculture continues to evolve, we see the emergence of an agribusiness i.e. where agriculture and food become a continuum. Multinational companies like Cargill, Brooke Bond Liebig, and Del Monte are examples of vertically integrated organisations with links all the way through from agricultural production to retailing. There is a line of argument which says that it makes sense that those who are closest to the consumer should assess his/her needs and interpret them back to the primary producer.

As disposable incomes increase, the food industry will increase the quality and diversity of the products it produces. Food manufacturers will have particular expectations of agriculture as a supplier of their raw materials, including:

Quality: To build a profitable business, food manufacturers seek to establish a preference for their products by differentiating those products in some way which is meaningful to consumers. Then, in order to enable consumers to recognise the differentiated product, manufacturers brand

that product. Manufacturers can then work on building consumer loyalty to these brands. Brand loyalty is normally only established by delivering high quality consistently. As disposable incomes rise, the market tends to develop more sophisticated needs and the quality of the raw material becomes even more critical. Where agriculture is seeking to serve a food industry, that itself is seeking to meet these more sophisticated needs and wants, it can expect to face increasing emphasis on quality. Equally well, agriculture can expect to share in the better return for innovative improvements in quality.

Cost: Next to quality will come cost. With an increased capability to search the world for raw materials, the food industry is able to find the lowest cost source for any given level of quality. For the food manufacturer, the country in which he/she manufactures, or markets, need no longer be the source of agricultural produce. Improved transportation and communications mean that the world is becoming his/her source of supply. This is a significant change in the competitive environment of agriculture which the farming community has to realise, because they have, hitherto, been largely concooned in their respective domestic markets.

Non-seasonality: Agricultural products were traditionally seasonal in their production and supply. Modern technology and husbandry practices mean that food manufacturers need not have their production schedules dictated by the seasons. Indeed, the capital intensive food industry cannot afford to incur the high costs of under utilising its capacity. This means that farmers will have to complete in terms of reducing seasonality or fitting into a pattern of social competitiveness.

Reliability: A manufacturer who has invested heavily in building up his brand will be very keen to get reliable supplies in terms of quality, timing and cost. Producers of agricultural produce will be increasingly judged on their reliability in all of these respects.

Processing: Ease of processing will become an increasingly important expectation of the food industry. Like all industries, reductions in the costs of capital equipment, wages and inventories are important objectives. For example, farmers who can deliver on the 'just-in-time' principle will contribute towards reducing a manufacturer's working capital and space requirements. Farmers who can do part of the secondary processing and/or performing functions such as the post harvest treatment of the crop or transporting will be adding another advantage. Crops that are specially bred or designed to facilitate processing (e.g. seedless fruits, featherless chickens, coffee beans without caffeine, low cholesterol meats) are another type of advantage that the food industry could expect from agriculture. In short, the competitive advantage will rest with those able to add most value and can differentiate what they are offering from that of other suppliers.

Product differentiation: In competitive brand marketing, the food industry has to innovate continuously to create new products that are different from and superior to existing ones of their own or competitors. The scope of innovation has traditionally been at the processing stage. Whilst this will continue to be an important area for innovation, manufacturers will increasingly tend to look for innovative changes in the agricultural produce itself. This may be in terms of novel tastes, improved texture, more attractive shapes, etc.

Health aspects: We have already said that in the more sophisticated food markets, healthy eating can become a priority among consumers. Therefore, farmers will have to consider the health connotations of what they choose to grow. There are two aspects of health to be taken into account. First, consumers may be interested in the food itself i.e. low fat, low/no sugar or low/no salt. It would be a mistake to think that health issues are confined to the more sophisticated food markets or to the wealthier segments of the community. Nutrition is important in all segments of the market. Even where the poor receive adequate amounts of food to fend off starvation, they are often malnourished. Thus farmers have to be concerned about the nutritional value of the produce they grow. Second, the consumer may be more, or equally, concerned about the food production methods i.e. the avoidance of chemicals like herbicides, pesticides etc. This may mean a change to the farmer's husbandry practices with implications for the costs of production. The consumer and the food industry will expect the farmer to produce without potentially dangerous chemicals, but at no extra cost to them. This will be another challenge for agriculture.

Agricultural and food marketing enterprises

The principal component of any marketing system are the institutions and enterprises of which it is comprised. Three of the principal forms of enterprise to be found in developing countries are discussed in this section. These are: private companies, marketing boards and co-operatives.

Private enterprise

Private enterprise has much to commend it, including a much higher level of financial independence from government than public enterprises. Moreover, private enterprise is able to adapt, rapidly, to changing circumstances and opportunities and is usually able to provide what consumers want at a lower cost than public enterprises. Abbott⁹ highlights several particular strengths of private enterprise, including:

Low operating costs	Nothing so concentrates the mind on cost control than ownership. The private entrepreneur has every motivation to contain costs since to do otherwise erodes his/her profit margin.
High levels of equipment utilisation	Since private enterprise has as its prime objective, profit, everything is done to maximise the use of capital equipment, and thereby lower unit costs e.g. concern is shown to keep factories operating at high levels of capacity utilisation, attempts are made to ensure that the firms' vehicles have economic return loads as well as outward loads etc.
Adaptability	Decision making within private enterprise tends to be quicker, because of the absence of a weighty bureaucracy, than in public enterprise equivalents.

According to Abbott, successful indigenous private enterprises, in agriculture, have several distinguishing characteristics. Those cited by Abbott apply particularly to enterprises that are owner-operated.

Personal initiative	The entrepreneurial spirit is in evidence when an individual shows a willingness to accept calculated risks.
Rapid decision making	Decision making within private enterprise tends to be quicker, because of the absence of a weighty bureaucracy, than in public enterprise equivalents.
Independence of spirit and persistence	Entrepreneurs need a good deal of self confidence i.e. they must be prepared to back their own judgements rather than rely on the views and support of others. Moreover, it often takes a fair amount of time before market demand can be built up and new markets penetrated and hence the need for tenacity.
Willingness to work hard, for long and/or irregular hours	There is a direct relationship between effort and the level of success in private enterprise. Rarely is the entrepreneur able to rely on others covering for him/her and no-one pursues potential business or seeks to solve management problems with as much vigour as the owner.
Relevant experience and/or expertise	Most successful private entrepreneurs have experience and/or expertise which others are willing and able to 'buy'. This could be, for example, the ability to judge the quality and quantity of meat a live animal will yield when slaughtered.
An understanding of agriculture	This of course, relates to agribusinesses and is essential to those seeking to do business with farmers (or fisherman). Knowing how crops are grown and mature and understanding the priorities of producers and the daily/seasonal pressures they face is invaluable in agribusiness.

Abbott claims to have identified several areas of marketing where private companies tend to perform better than other forms of marketing enterprise.

Perishable Products	This class of product is subject to rapid and extreme fluctuations in supply and demand, and therefore price, as well as considerable variation in quality, both at harvest time and subsequently, due to mechanical, pathological and/or physiological damage. A private
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	company, with its ability to make quick decisions, in response to an ever changing environment and set of market conditions, is in a better position to prosper in the perishable produce market.
Livestock and meat	Abbott claims that the marketing of livestock and meat is dominated by private enterprise. He says that this is explained by the fact that direct decision making gives private enterprise the edge because of the need for skilled judgement in appraising quality and value when the product is so variable.
Combined purchase of produce and sales of farm inputs and consumer goods	Businesses serving rural customers often have to deal in small quantities of supplies and purchases and this requires a great deal of flexibility on the part of the enterprise. It is usually the smaller, private, enterprise which proves willing and able to conduct business in such a way.
New and highly specialised activities in marketing	The willingness to invest in new, and therefore risky ventures or to invest in highly specialised activities is usually the province of the private sector. The French economist J.B. Say (c.1800) is quoted as defining the entrepreneur as one who "...shifts economic resources out of an area of lower and into an area of higher productivity and greater yield". Committees and government bureaucracies are not especially fond of closing down existing economic activities. They are not much better equipped to generate new ideas or indeed to innovate.

Marketing boards in developing countries

Marketing boards are, in most instances a government agency and/or statutory organisation having the function of intervening in the marketing process, with a view to serving the cause of efficient and orderly marketing. Less frequently they are voluntary organisations established by farmers/producers. Put another way, marketing boards tend to be born out of government policy rather than by consensus among commercial parties. This is especially true of Marketing boards in the tropics where their chief object is to improve the income of the smallholder, grower, and/or livestock farmer. Marketing boards do not normally provide marketing services to large estates or plantations. Prior to the adoption of structural adjustment and market liberalisation in nearly all Marketing boards served as 'price stabilising boards'.

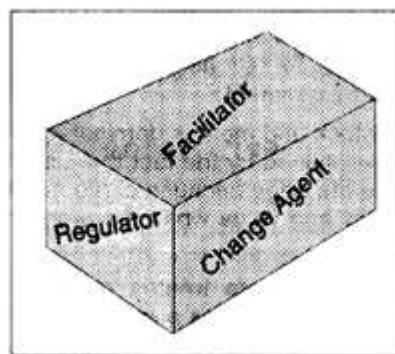
Another characteristic of marketing boards is their focus on durable products. Marketing boards are normally given authority for 'controlled' or 'scheduled crops'. In many countries fewer than 5 crops are controlled. These tend to be traditional crops like millet, sorghum, rice, maize, groundnuts and palm oil and 'colonial' crops such as cocoa, cotton, coffee, tea, tobacco and rubber. Some governments have opted for boards that control more than one crop. In some cases, the marketing board performs all of the marketing functions itself but in others it cooperates with private enterprise by, for example, hiring storage facilities or appointing local buying agents.

The effectiveness of a particular marketing board is often viewed in terms of three factors:-

- Its contribution to orderly and efficient marketing
- The reduction in the capacity of intermediaries to manipulate margins at the expense of producers and consumers
- The generation of producer-oriented monopoly power

In many cases the establishment of a marketing board was a reaction to situations where middlemen and/or foreign buyers were perceived to hold monopsonistic power over producers. Hence the role of the marketing boards is frequently articulated as being one of organising producers into monopolistic agencies with real countervailing power; to reduce inefficiencies due to unwarranted competition, and duplication of effort between intermediaries.

Figure 1.5 Main roles played by marketing boards



In theory at least, the marketing board contributes to orderly marketing by acting as an agent for improving marketing practices, as a market regulator and as a provider of facilitating services. For instance:

Change agent	Marketing boards can establish marketing practices and procedures for raw and/or processed products.
Regulatory role	Marketing boards may act as “watch-dogs” over agreed marketing practices and procedures e.g. credit arrangements, weights and measures, quality control etc.
Facilitator	Marketing boards may provide all or some of the facilitating services e.g. credit, market intelligence and risk management. The last of these usually takes the form of the guaranteeing of prices. In the case of tree crops prices are announced in advance of harvest. Prices for annual crops are normally made known before planting or sowing.

The role of marketing boards in bringing about more efficient marketing is most often framed by policy makers in terms of modifying the market structure. That is, trying to make what is perceived to be an imperfect market structure more advantageous to producers. Of course, in doing so, account ought to be taken of the effect on both consumers and other players within the marketing system. This is not always done and the question is begged whether a market structure which is organised to the principal benefit of one particular set of players is anything other than imperfect to the others.

However, the argument in favour of giving producers real countervailing powers is strongest in situations in which the marketing system is characterised by a myriad of largely powerless producers and a relatively small number of powerful intermediaries. In these circumstances, the price-makers are the middlemen and both producers and consumers are price-takers.

One particular way that a marketing board may act to modify an existing market structure is to rationalise the system in an attempt to reduce inefficiencies seen to be caused by unwarranted competition and duplication of effort between intermediaries. For example, there may be duplication of transport, storage and processing facilities to the extent that capacity utilisation cannot rise to economic levels without extremely high charges to compensate. Marketing boards may try to rationalise the system through, for example, a system of licenses.

Buying operations of marketing boards: Marketing boards would normally buy at fixed prices. Each season or year, the government sets the price for scheduled crops. In the case of tree crops, this price is announced before harvest and before planting or sowing in the case of annual crops. It is subsequently kept at the same level for a period of time: typically about 6 months. These procedures give some security to producers.

Buying takes place at official buying points where there are either appropriate storage facilities for the produce, or transportation so that it can be moved before any significant deterioration in quality occurs. Clearly farmers are concerned that buying points should be conveniently located. However, maintaining an extensive network of buying points adds substantially to a marketing board's operating costs and so the interests of the two parties often conflict. One compromise is for the marketing board to operate mobile buying teams to supplement permanent buying points.

In some countries the buying points are staffed by board employees, but the costs of running the

buying points and the associated transportation costs can become too high and some governments seek alternative solutions such as transferring buying points to local co-operatives, and/or by appointing licensed buying agents (LBAs). It is common in anglophone West Africa to have co-operatives operating as LBAs, in competition with private traders who are also LBAs. The use of buying agents promises some degree of competition, which in view of the fixed prices, expresses itself in the secondary conditions, in particular better service.

Case 1.3 Rationalisation Isn't Always Rational

The need of marketing boards to delegate the actual buying function is exacerbated by the inevitable shortage of transport experienced in developing countries. In order to make best use of the transportation available, marketing boards can appoint buying agents. An alternative, tried by Tanzania, was to rationalise the crop buying activities of the various boards. In view of the problems the Tanzanians were experiencing in the late 1970's, a decision was made to assign each of the marketing boards a district in which it would have responsibility for buying all scheduled crops. The crop authority generally corresponded to the main cash crop of the district. Thus the Tanzania's National Milling Corporation (NMC) found itself buying a variety of crops in the areas it was assigned and depending, in turn, on other parastatals, the cotton authority, the tobacco authority, etc. to purchase grain in other districts. This arrangement facilitated the allocation of lorry and rail space and avoided the waste involved in lorries of various crop authorities converging on a particular buying centre at the same time. On the other hand, it caused great accounting confusion. Parastatals often did not have separate accounts for the different crops they were buying. When ultimately relinquishing the purchased grain to the NMC and the NMC handed over tobacco, cashew, cotton etc. to the respective authorities, reimbursements were very difficult to determine. In the 1979 these arrangements were discontinued¹⁰.

Selling operations of marketing boards: Some marketing boards, like grain boards, are concerned entirely with domestic consumer markets. These tend to be handling staple crops such as maize, millet and rice. Other boards are dealing exclusively with export markets and, therefore, industrial buyers. The two types of markets are quite different from one another and so therefore are the operations of the boards serving them. A distinction is sometimes drawn between these two types of board by referring to Food Marketing Boards (FMBs) and Export Marketing Boards (EMBs). Among the major differences is the position of governments with regard to them. First, governments have no control over demand in export markets whereas they can, and do, exert control over demand within the domestic market. Second, since governments have to take account of the interests of domestic consumers of staple crops, they sometimes instruct FMBs to adjust their marketing strategies to meet social and/or political rather than commercial objectives. The interests of consumers in export markets are of no direct concern to the government of the exporting nation.

Selling operations of EMBs: Some export markets are governed by commodity agreements such as the Sugar, Cocoa and International Coffee Agreement, but in the majority of cases they must operate within free or open markets where vigorous competition exists. EMBs tend to favour early sales. That is, they try to minimise the time period between buying and exports. This is sometimes termed a 'rapid evacuation' policy. It keeps storage and capital investment requirements to a minimum, since the burden of holding and financing stocks is carried by the recipient of the produce. Most EMBs practice 'forward selling' which as the term itself suggests, means signing sales contracts well in advance of delivery. Sometimes it means selling the crops well in advance of their being harvested, or sometimes even before they are planted.

The practice of 'export parity pricing' is prevalent among EMBs. This means that the producer price is calculated as a residual of the export price minus marketing costs. There is no particular motivation to minimise those marketing costs in such a system, since a major source of uncertainty for EMBs has always been the instability of prices in the open world markets. As EMBs cannot influence these prices, they tend to take the defensive approach of lobbying for low producer prices. In this way they hope to avoid a trading deficit when world prices fall.

Selling operations of FMBs: In many developing countries the FMB's selling price is set by government. Concern for the welfare of consumers often encourages governments to set low prices. This means the gross trading margin of an FMB is often small. The margin is invariably a source of conflict between FMBs and the government. In its desire to please both consumers and farmers, government will often suppress the profit margin and insist upon the FMB reducing its outgoings. The government usually has the upperhand but since it has to bear any deficit it is a hollow victory.

Consumers needs determine the timing of the release of stocks. Staple crops, usually have a fairly constant demand throughout the year, and FMBs have to bridge the usual, and considerable, interval between buying after harvest and staggered selling over the year. Stockholding is an important but expensive function of FMBs especially immediately after harvest when there is often insufficient storage space for the incoming produce. Conversely, as the stocks are slowly released FMB stores are under capacity for much of the year. A common objective of FMBs is basic 'food security' in times of shortage. This policy makes a lot of political sense but commercially it presents difficulties. Working capital is required for a longer period, and, if after all there is no shortage, the FMB is left with decaying stocks.

Nearly everywhere there is a 'dual marketing system', with a parallel market which allows farmers, traders and consumers to by-pass the FMB. In some countries the parallel market is permitted by the government. Where FMBs have been given a monopoly, parallel markets become black markets, suppression of which has proved impossible. Indeed whether the parallel market is permitted or forbidden, the FMBs have to reckon with its competition.

Some boards do not fit easily into the two categories discussed so far. Produce such as groundnuts, sunflower seed oil and palm oil, have both domestic and export markets. Marketing boards handling these products have been mainly been established in countries where a surplus for export exists. These boards are normally classified as export boards. However, there is always the possibility that domestic demand will increase to the point where it absorbs the export surplus, at which point the board becomes a domestic marketing board.

Case 1.4 Profitability Comes From Wrapping The Customer in Cotton Wool

The Zimbabwe Cotton Marketing Board's responsibilities included: purchasing and storing of all seed cotton grown in Zimbabwe ginning the cotton and marketing the lint and cotton seed and ensuring an adequate supply of certified planting seed for all growers.

All cotton growers had to register with CMB and grow varieties determined by it. Large producers were required to adhere to delivery quota's by the ginneries.

The Cotton Research Institute undertook cotton breeding on the basis of international market requirements.

When new varieties were adopted, the Board selected growers to undertake multiplication. They grew for the Board which, in turn, distributed the seed the following season. Planting takes place in October-November with the start of the seasonal rains. In January all large scale growers were required to report the area planted to cotton to the Board and a first production estimate was made. Large scale growers made a second return in March indicating their likely sales. These data,

together with estimates of smallholder production, were used to forecast the next harvest. This enabled the CMB to set up its delivery quota system, ginning arrangements and selling schedules well in advance.

Farmers delivered to the nearest ginnery with those situated in remote areas delivering to transit depots. Growers marked their cotton with their registration number. On delivery at the ginnery depot, the cotton was graded into one of four classes. The farmer was then paid out, through a computerised accounting system, normally within eight days of delivery. Samples of all bales set below the top priced grade were kept for a period to allow growers to appeal against the grading if they wish. The four grades were based on colour and cleanliness and designed to encourage appropriate production and harvesting practices. A cross-check on the grades was made by experienced lint classifiers who visited the depots on a frequent but random basis during the buying period. After the cotton had been graded for payment to the farmer, a strict quality control system came into operation. Each bale was classified into one of about 40 'stack' numbers by appraising its fibre length, strength, fineness and colour. It was then stored in stacks consisting only of bales with identical stack numbers.

This system is unique to Zimbabwe. Through the ability of the CMB's system to produce lint of consistent and specified quality, Zimbabwe was able to achieve premium prices for its export cotton. When a spinner set out the characteristics of the lint required, CMB could identify a stack of seed cotton likely to provide it. Samples were then checked at the ginnery and at the sample quality control laboratories in Harare to determine whether they met the requirements of the contract. This system met much tighter quality specifications than those employed in many other countries where the lint is classified only after ginning and ends up more variable in quality.

The CMB identified a specific market segment for its product and does not compete against the much larger output of such countries as the USA and the CIS. The entire marketing system - grower, researcher, extension worker, buyer and exporter - is oriented towards meeting the requirements of the market.

On the whole the picture of marketing boards in the literature is a depressing one. They are largely portrayed as weak organisations which have achieved little success. There are however some outstanding success stories like the Zimbabwean Cotton Marketing Board (CMB) part of which is related below^a.

When setting out to evaluate the economic performance of marketing boards, it is all too easy to neglect to acknowledge that to a very great extent they are charged with achieving political as opposed to purely commercial objectives. Indeed policy makers often refer to them as 'instruments'. Those who readily identify the "mistakes" of marketing boards more often than not neglect to distinguish between those errors which could be rightly attributed to the boards' management, and therefore can be corrected by that management, and those lying outside the board itself. Some criticisms would best be addressed to those governing the activities of the board. For example marketing boards are frequently used, by governments, as instruments of national policy, including:

- the promotion of agricultural and rural development with social goals overriding commercial objectives
- as instruments of fiscal policy

- as a mechanism for containing urban wages through price restraint on staple foods
- as a device to encourage farmers to grow and sell more food and export crops, by pushing higher producer prices
- as a means of consolidating power by placing political appointees on to the Board¹¹.

a. The details of Zimbabwe's Cotton Marketing Board given here relate to the period preceding the implementation of the structural adjustment programme. A number of the operational details of this Board have changed as a result but the positive lessons to be learned from reading this case remain valid.

Thus, many of the decisions and activities undertaken by marketing boards which adversely affect profits and cash flow are not the product of poor commercial judgement on the part of management but are attributable to individuals, outside of the boards themselves, who have goals that are entirely divorced from the efficient and effective operation of those boards.

Co-operatives in the agriculture and food sectors

The co-operative enterprise has its origins in the 19th century and has become one of the most ubiquitous examples forms of business/economic enterprise. Co-operatives exist in all countries of the world and operate under diverse political systems: from communism to capitalism. The majority of these co-operatives are, through their national apex organisations, ultimately in membership of the International Co-operative Alliance (ICA), the representative world body of co-operatives of all types.

The motivation to form co-operatives has three particular aspects:

- the need for protection against exploitation by economic forces too strong for the individual to withstand alone
- the impulse for self-improvement by making the best use of often scarce resources
- the concern to secure the best possible return from whatever from of economic activity within which the individual engages whether as a producer, intermediary or consumer.

It is the belief that each of these aspirations can most advantageously be pursued and secured in concert with like-minded people that provides the stimulus to co-operative action. The underpinning principles with are those of self-help, voluntary participation, equity, democracy, and a common bond of common need and purpose. The cohesion of the group is maintained by ensuring that individual members cannot secure power or gain advantages at the expense of the others. Co-operatives reward participation in the co-operative venture rather than rewarding capital. Self-interest is a primary motivator in co-operative enterprises, with economic gain being the primary objective. In these respects, co-operatives differ little from capitalistic enterprises; self-interest is simply pursued in a different way from the capitalist enterprise. Thus, the rate of interest paid on share capital is fixed and limited, and not subject to variation according to the amount of profit made. Secondly the use and distribution of surplus is restricted to one or more of the following purposes:

- allocation to reserves, where it becomes collectively-owned capital and is thereafter non-distributable
- for use on, or donation to, common-good, community project
- distribution to members in proportion to the trade each member has done with the co-operative. In other words, the distribution is made not in relation to capital held, but by declaring a bonus or dividend per cash unit of trade done

The Structure and organisation of co-operatives

There are two principal forms of co-operative organisations: primary co-operatives and secondary co-operatives. The basic unit in the co-operative systems is the primary co-operative. A primary

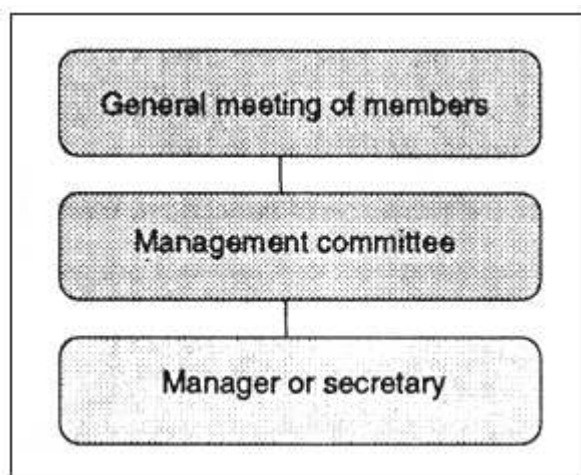
co-operative is one in which the shareholder are individuals; each of them having an equal share in its control.

Primary co-operatives	In many cases, primary co-operatives will combine several functions e.g. an agricultural co-operative may provide consumer supplies to its members. Primary co-operatives may also own and run subsidiary enterprises related to their main functions, such as a consumer co-operative with its own manufacturing/processing or servicing business.
Secondary co-operatives	While a primary co-operative has individual persons as members, a secondary (or federal) co-operative is one in which other co-operatives are the members. Apart from this basic difference the structure and organisation of both types follow a very similar pattern.

The control and management of primary co-operatives

The control structure of co-operatives is made up of three tiers as figure 1.4 depicts. The General Meeting of Members makes policy and through this meeting members exercise control. In most countries there is a legal requirement to hold an Annual General Meeting which has the particular responsibilities of receiving and deciding upon an audited statement of account, deciding how any surplus shall be used and distributed, and of electing a committee.

Figure 1.6 The management structure of primary co-operatives



The General Meeting of Members delegates the operational control of the co-operative to a management committee (or board of directors), which controls the works of the co-operative on behalf of the members. One member of this committee is elected chairman or president. A manager (or secretary) is appointed by the management committee as the chief administrative officer of the co-operative. He/she is responsible to the committee for the day-to-day control of the business. In small co-operatives he/she may be a member elected to do the work without pay.

Federal or secondary co-operatives

Secondary co-operatives (also variously described as “union” or “federal” co-operatives) can be organised for many different purposes. It is quite possible, and quite common, for a primary co-operative to be a member of several secondary co-operatives, depending on its needs and the local co-operative structure. Examples of secondary co-operative organisation would be:

- a local district union of 3/4 cotton marketing co-operatives to operate a ginning plant
- a federation of 2, or more, consumer co-operatives to operate a bakery
- a national union of agricultural co-operatives to manufacture fertiliser
- a national union of consumer co-operatives to organise wholesaling services and to manufacture merchandise

- a national federation of co-operatives to run a national bank.

Through the device of federation, co-operatives are able to organise very large-scale business operations at the national - or even international - level without detriment to the democratic control of the primary co-operatives by their own members. The secondary co-operative can, because of its larger volume of business or its wider representational base, undertake functions, provide services, and make representations, which would be beyond the capacity of all but the very largest primary co-operatives. Secondary co-operatives are a form of vertical integration providing the opportunity for economies of scale, scope for development and improved administration.

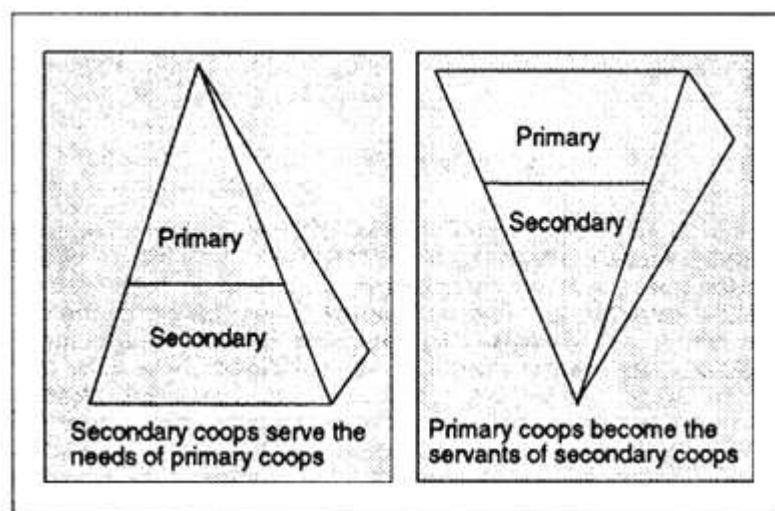
Secondary co-operatives can in turn form other secondary co-operatives - sometimes called tertiary co-operatives. In many countries there is one apex federation representative of all other co-operatives in the country and providing, at the national level, representative, advisory and professional services to the co-operative movement as a whole. These national co-operatives can then be affiliated to international organisations such as the International Co-operative Alliance.

Control and management of secondary co-operatives

The control and management of secondary co-operatives is similar in form to that of primary co-operatives. The share holding members - the primary co-operatives - exercise policy control through the General Meeting and elect a management committee to act on their behalf. The management committee in turn appoints a chief officer to manage the operation under its direction. The bye-laws of secondary co-operatives, as with the primaries, set down the organisational rules and procedures and are subject to the approval of the responsible local authority. The operating surplus of a secondary is also used and distributed following the same principles as a primary co-operative.

The federal co-operative can tend to become the masters of their member co-operatives rather than their servants. This situation can arise for two reasons. Secondary co-operatives engaged in manufacture and trade can usually only operate efficiently given a high level of integration between their operations and those of their members. This requires a commensurate high level of discipline or some form of contractual compulsion. Secondly, the operational size and volume of trade of secondaries can be such, compared to individual primaries, that there is a strong tendency for them to behave as the dominant partner in the relationship. It is a tendency that has to be monitored and, where necessary, checked. The secondary co-operative has as its chief obligation, the provision of services to member co-operatives.

Figure 1.7 Primary and secondary cooperatives relationships



The potential of co-operatives is immense. Co-operatives appear well suited to the economic, social and institutional needs of development in the rural economy. Co-operatives can provide the

mechanism to organise and mobilise people for self-help action in providing the services they require as a farming and rural community. As self-administered rural institutions, co-operatives have the capacity to reflect, and to respond to the needs of their members; and, at the same time, to help foster attitudes of self-reliance and self-confidence within a framework of mutual aspirations and mutual action. In the delivery of services to their farmer-members they can provide an essential support to the development objectives of both the farmers themselves, and of national development policy.

As business organisations co-operatives also have the capacity to act directly as development agencies. In their steady accumulation of business assets, the expanding range of their services, the acquisition and use of management skills, the employment of staff, they are involved in a positive and measurable development function. Moreover, the flexibility of co-operative organisation, for example through the potential of secondary co-operatives, offers opportunities for collective action in the development of agro-industrial enterprise to help support and strengthen local initiatives, and to give a further boost to rural development. There are few countries where co-operatives are not recognised as potentially important agencies of development.

The weakness of co-operatives

Unfortunately, the potential of co-operatives, and the extent of their development, has, in many cases, fallen far short of expectations. Low standards of performance, bad management, financial failure, corruption and misuse of funds, use of co-operatives for political ends, have been common features of co-operative enterprise in many countries. As a consequence, a great deal of understandable criticism has been levelled at the co-operative system, and many, including some members, have become cynical as to its ability to play an effective role in the development process. There are a number of problems which inhibit co-operative development and adversely affect performance, the more important of which are discussed below.

Realism of objectives: Commitment and purpose are two important ingredients in motivation. Achievement of purpose is equally important. Objectives are expressions of purpose and expectation. To serve as motivators and guides to action they have to be attainable. The resources available have to be adequate to achievement of the objectives, and aspirations must be matched to ability. Neither members nor others should expect too much of co-operatives, including expecting them to expand too quickly. Most agricultural co-operatives in developing countries operate in commercial circumstances which any form of business enterprise would find difficult. Like their farmer-members, co-operatives have to operate in very marginal conditions. Their members are usually poor, often subsistence, farmers. High operating costs, low margins, relatively low turnovers, narrow stock inventories, seasonal trading patterns, exposure to the consequences of crop failure, high credit risk, fluctuating demand, are all familiar aspects of trading in such circumstances. Indeed, were it not so, it could be expected that private enterprise would have moved in to exploit a profitable market. It is not uncommon for co-operatives to be introduced to provide essential services because other agencies have either failed, or refused, to do so.

Expecting too much of co-operatives is one fault, expecting too much too quickly is another. The mistake is frequently made that once a co-operative appears to be reasonably well established, injection of loan capital from some external source will permit it to rapidly expand its services. Such hasty injection of loan capital can strain management resources, encourage unwise risk-taking, weaken financial judgement, lead to overstocked inventories and promote loss-making enterprise. Co-operatives ought to be allowed to develop at a pace commensurate with the ability of members to manage, control and finance the development. They should be permitted to expand steadily like any other successful business enterprise, finding the resources to do so largely from surpluses made in their own trading operations. Business capacity should not be strained, for example, to meet the objectives of a government development policy. Revolution rather than evolution, will only prove detrimental to both the viability of the co-operative and to the attainment of the policy objectives.

Conflict between economic and social purposes: Economic success is basic to the

achievement of co-operative purpose for, in the long run, unprofitable enterprises cannot be sustained. However, co-operatives are constrained in the extent to which they can mimic the objectives and practices of capitalist enterprise without abandoning the fundamental values of the co-operative movement. For example, in the pursuit of business growth there can be a strong temptation to weaken member control and concede greater control to professional management, to make the creation of profit a paramount consideration, and to ignore the concepts of equity and fair dealing. The creation of collectively-owned capital by reinvestment of profits (surplus) is a highly important and desirable practice, but has its disadvantages in that if the element of members' share capital as a proportion of the total capital structure becomes so insignificant that professional management can afford to ignore it and so ignore member control in making policy decisions. The outcome is an enterprise largely indistinguishable, except in name, from a capitalist enterprise.

Misuse of co-operatives to pursue political objectives: Attempts to divert the purpose and resources of co-operatives to the support of particular political objectives adversely affects the co-operative movement. Factional dissension among the group distracts it from the achievement of its economic objectives. Members' meetings can become political forums devoted to the advocacy of opposing views. In these circumstances many members can become disenchanted and lose interest, making it easy for a minority group to take control and to attempt to run the co-operative to serve its own ends.

Co-operative principles require that membership should not be assumed to imply either political commitment or obligation. Co-operative systems organised and tightly controlled by governments as instruments of state economic policy are rarely conducive to the development of democratically-controlled, member-owned co-operatives. They are created to serve the objectives of politicians and planners; objectives which may or may not coincide with those of the members who have little effective control of the enterprise.

Case 1.5 Compulsory Co-operatives - A Contradiction In Terms

Difficulties are encountered when the principle of the "voluntary co-operative", is violated. Several countries have experimented with the compulsory co-operative. The most extensive such experiment was the ill-fated Ujama programme in Tanzania. This required that the whole rural sector should effectively be administered and serviced through a system of village, district and regional administrations. Where it was considered necessary to rationalise the existing population distribution (11 million people were resettled), re-organise the infrastructure, or change patterns of cultivation to meet the objectives of the plan or the requirements of its administrators, this was done by decree. It was a massive effort of social engineering designed to radically and quickly reform and restructure an impoverished rural economy. It failed, largely because the bureaucracy was inadequate to the task it had taken upon itself and because the ability to exercise the necessary authority to secure acquiescence was not there.

The Ujamaa experiment was of particular interest to those in the co-operative movement because a well-established co-operative system was destroyed to make way for it, and co-operative assets subsumed into the new structure by decree. When it was eventually abandoned efforts immediately began to recreate another co-operative system based largely on that which had been destroyed.

Co-operative attitudes are not best cultivated by compulsion or by subjecting co-operative 'members' to the control and authority of bureaucrats¹².

Management: There has been a tendency to argue that a major cause of co-operative failure is the constraint imposed on the exercise of management skills and authority by the democratic nature of the enterprise. That being so, it is suggested that the authority of the General Meeting ought to be curtailed, leaving committees and managers to get on with the job of management. However, to do so would deny the purpose of the enterprise that being to enable people to run their own business. The solution lies in increasing and improving the level of member participation, not restricting it. Moreover, the standard of management within co-operatives is often inherently poor. As has already been said, co-operatives often come into being in markets and geographical areas considered as marginal in terms of profit potential by most other forms of commercial business enterprise. This being the case, the salaries, working conditions and work location that they are able to offer fail to attract top quality managers.

Selling arrangements between co-operatives and their members

A principal policy question in co-operatives is the procedure to be used in selling members' produce. The alternatives are: outright purchase from members, or sale on commission.

Outright purchase: In this case members are paid for their produce, at prices fixed by the co-operative, at the time of delivery, and the co-operative takes title to the produce. The co-operative then resells the produce at the most advantageous terms it can secure. Profits made on the transaction will be used first to meet the operating expenses, any surplus balance being used or distributed by decision of the General Meeting. This approach requires the co-operative to have high levels of funds available. Since, in the case of seasonal crops, a lot of produce is being offered within the immediate post harvest period, a serious adverse cash flow situation can arise. This can be alleviated by a two-stage payment system whereby members are paid part of the sale price at the time of delivery, and the balance after the co-operative has resold the produce.

The main objection to outright purchase is that the co-operative carries all of the post harvest risks including: fall-off in demand, price fluctuation, reduction of produce value due to down-grading, deterioration giving rise to loss of quality and so value, failure of transport arrangements, spoilage, fire and theft. Some of these can be covered by insurance but most cannot. Generally, this method is only acceptable where the risks incurred are limited and can be reasonably well assessed. For example, where forward contracts have been negotiated. These risks being taken into account, outright purchase has the advantage of permitting the co-operative to add value to the crop and thereby add to the profits of its members. There are three principal ways in which a co-operative might add value to the commodity.

- Produce can be stored for sale at a later date when prices have improved
- Value can be added through primary processing of the crop. Cotton ginning is a good example of relatively simple and inexpensive process which is best done close to the fields. The value of baled ginned cotton, is normally considerably more than the sum of the value of the raw cotton plus the cost of ginning. And there is the additional value of the cotton seed
- Opportunity for adding value exists in the packing and presentation of the crop, or in the case of livestock, improvement in condition or quality before sale. Graded, washed and well packed fruits and vegetables can attract wider markets and premium prices.

There is a *caveat* which ought to be added. Whilst price advantages gained by adding value are of direct benefit both to the co-operative as a whole and to individual members, the additional investment needed to capture the additional return, can be prohibitive. Apart from the risks incurred, outright purchase, storage, packing, processing, transportation, marketing etc., require substantial financing. Moreover, these more complicated operations call for a high level of management skill and judgement, which is frequently a scarce resource.

Sale on commission: This far simpler, virtually risk-free, operation leaves the co-operative as the producers' agent with no legal title to the goods. All attendant risks therefore remain with the individual producers. The co-operative collects produce from members and sells in the most

advantageous markets. It then deducts a commission at a previously agreed rate from the sale price. The co-operative meets the cost of its expenses from its commission income. With the sale-on-commission system the co-operative avoids the need to finance crop buying and it minimises its risks. In addition, much simpler operating procedures are required and expenditure can be more accurately matched to anticipated income.

The main disadvantage of sale-on-commission is that neither the member nor the co-operative is able to exploit possible price improvement. Another is the possible delays in the producer receiving cash for his crop. No payment will be made by a co-operative until it has been paid by the customer. Apart from the time taken in an 'open market' for crops to be sold, it is by no means unknown for parastatal agencies to be dilatory in paying-out for produce received from co-operatives.

Summary

The argument in favour of agricultural and food enterprises, in developing countries, becoming more customer oriented is a compelling one. Average incomes in developing countries are low and so the marketing systems which deliver agricultural and food products have to be efficient if they are to deliver food and other products at affordable prices. Moreover, when a country does experience economic growth this is normally accompanied by an acceleration in the rate of urbanisation. The end result is that greater demands are placed upon farmers. Marketing systems have to be capable of signalling the needs of both consumers and industrial users of agricultural outputs to the farmers. The marketing system must also motivate and reward all of the parties whose participation is essential to the delivery of commodities and products in the quantities and at the qualities demanded. Yet another development which has increased interest in marketing practices of late is the move towards market liberalisation as part of economic structural adjustment in many developing countries.

The marketing concept suggests that an organisation is best able to achieve its long term objectives by orientating all of its operations towards the task of consistently delivering satisfaction to the customer. In order to do so, the organisation must begin by getting to know what it is that will satisfy the customer. The marketing system as a whole has to be customer orientated. A marketing system comprises the functions of marketing (buying and selling, storage, transport and processing, and, standardisation of weights and measures, financing, risk bearing and market intelligence), and the organisations that perform them. Marketing systems have at least four sub-systems, these being production, distribution, consumption and regulation. These sub-systems often have conflicting interests that have to be resolved if the system as a whole is to be efficient and effective.

The food industry is a major user of agricultural products and commodities. As disposable incomes increase in developing countries, the food industry will have to meet new and different needs from its more affluent consumers. The food industry will, in turn, require agriculture support its efforts to meet the new challenges and opportunities. In particular, the food industry will demand that agriculture produces a wider range of qualities in its products and commodities with a greater proportion of total supply in the top grades; downward pressure will be exerted on agricultural production costs; agriculture will be required to supply throughout the year rather than seasonally; reliability in the quantity, quality and timing of supplies will become the major determinant in supplier selection; innovative producers who can provide differentiated products and products that make food processing easier or cheaper are more likely to survive than those who persist in producing traditional products using traditional farming methods; and issues related to the health aspects of food consumption will become increasingly important.

The institutions and enterprises that make up a marketing system are critical components of that system. In this chapter three types of marketing organisation have been discussed: private enterprise, marketing boards and co-operatives. These were chosen because historically they have been principal components of the food and agricultural marketing systems of so many developing countries. Private enterprise has often proven to be more efficient (technically and financially) than other forms of enterprise and especially those that are agents of government. Moreover, private enterprise has demonstrated higher levels of capacity utilisation, more timely

decision making, greater adaptability to changing market circumstances, higher levels of motivation and personal initiative, and to have better experience and expertise than other forms of agribusiness enterprise.

Marketing boards - both food marketing boards and export marketing boards - usually have the function of intervening in the marketplace to aid the process of efficient and orderly marketing. Very often a marketing board's chief goal is to help improve the income of smallholders. Marketing boards generally handle durable products. A marketing board can expect to be judged in terms of its contribution to orderly and efficient marketing, the extent to which it counters the monopolistic practices of market intermediaries and the transference of the balance of power, in the distribution channel, in favour of producers. As a generalisation it has been concluded that agricultural and food marketing boards have failed to achieve expected results in developing countries. It would appear that this is due to social objectives compromising commercial objectives, government's use of the boards as instruments of fiscal policy, manipulation of the marketing board's prices to encourage increased production and contain retail prices for staple foods, and the placing of political appointees to the management of the boards.

The formation of co-operatives is often motivated by their potential in: protecting smallholder and small scale business from economic exploitation; stimulating self-reliance; and improving the return on investment of economically disadvantaged individuals or groups. The management structure of co-operatives - whether these are primary or secondary - invariably has three tiers: the General Meeting of Members, the management committee and the manager/secretary. In the case of primary co-operatives all members have equal voting power and members are rewarded in relation to the amount of trade they do with, or through the co-operative and not in accordance with the amount of capital which they have invested in the co-operative. Secondary co-operatives, whose members are primary co-operatives sometimes accord voting power in proportion to the relative size of the primary co-operatives that make up their membership.

The chief weakness of co-operatives are: the fact that they operate in marginal economic conditions, they have social as well as economic objectives that are sometimes in conflict with one another, co-operatives are sometimes used to achieve political ends which divert them from their legitimate mission and because of very limited resources and lack of status, they experience difficulty in attracting high calibre people to management positions.

Key Terms

Adding value	Food marketing boards	Marketing concept	Secondary co-operatives
Exchange functions	Federated co-operatives	Marketing systems	Scheduled crops
Export marketing boards	Local buying agents	Physical functions	
Facilitating functions	Marketing boards	Primary co-operatives	

Review Questions

From your knowledge of the material in this chapter, give brief answers to the following questions below.

1. Highlight the main conflicts of interest between the key players in agricultural and food marketing system.
2. What are the 3 physical functions of a marketing system mentioned by Khols and Uhl?
3. How is value added to a product or service?
4. What is the principal goal of the standardisation of weights and measures for agricultural products?

5. What was the Ujamma programme?
6. According to Adam Smith what is the purpose of production?
7. Name the 4 sub-systems that Rosson suggests comprise agricultural and food marketing systems.
8. In the past, what has been the main function of marketing boards in developing countries?
9. Explain the term 'rapid evacuation'.
10. What are the difficult commercial circumstances in which co-operatives often find themselves?
11. Explain the term 'tertiary co-operatives'.
12. What are the 2 ways in which co-operatives purchase produce from their members?

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Chapter 2

Market Liberalisation

As the economies of developing countries continued to deteriorate in the wake of both external and internal shocks, LDCs experienced increasing difficulties in obtaining external loans and became more dependent upon the International Monetary Fund and the World Bank for financial support. The World Bank observed that stabilisation measures implemented by LDCs had often fuelled inflation, e.g. increased borrowing, foreign exchange controls, the extension of price controls, increased import tariffs and control of imports through licensing. It was soon apparent that these remedies were ineffective and alternative solutions had to be found. International funding agencies began to insist that borrowing governments implement an economic structural adjustment programme (ESAP). The reform or liberalisation of markets including agricultural and food markets, has been a central element of ESAPs. In agrarian based economies, which would include almost all developing countries, reform of the agricultural and food markets has been the single most important component of ESAP.

Chapter Objectives

Having read this chapter the reader should be able to:

- Articulate the principal aims of ESAP
- Understand the macro-and micro-economic changes which have to be made in the process of implementing ESAPs
- Identify the main obstacles which must be overcome in the process of restructuring agricultural marketing parastatals
- Outline the options for restructuring agricultural marketing parastatals which are open to governments
- Identify the factors which prevent or discourage the development of a vibrant private sector within agricultural marketing systems, and determine how such obstacles might be removed.

Structure Of The Chapter

This chapter firstly outlines the nature of economic structural adjustment programmes. Secondly, there is a review of the alternative course of action which could be pursued with respect to the role of agricultural marketing parastatals within liberalised markets. The third component is the issues relating to the encouragement of the private sector to participate in markets from which they were either excluded or at least encountered many hindrances.

Economic structural adjustment programmes

The prolonged economic recession which began in the late 1970's accelerated the rapid deterioration in the economic condition of many developing nations in the form of an ever widening gap in their balance of payment accounts. Many LDC governments reacted by

implementing 'curative' measures that actually fuelled inflation. These included increased borrowing, restricting access to foreign exchange, the extension of price controls, increased import tariffs and control of imports through licensing requirements. On occasion, such measures were pursued independently but on others they were part of IMF sponsored economic stabilisation programmes. By the early 1980's it was apparent that stabilisation measures on their own would not solve the problem and alternative approaches were sought. The World Bank was first to conceive an economic structural adjustment programme (ESAP). Soon most international funding agencies were insisting that borrowing governments implement ESAPs. A key element of all structural adjustment programmes has been the reform or liberalisation of markets, including agricultural and food markets.

The World Bank first applied the term *structural adjustment* to describe its programme of policy-based lending which began in the early 1980s. (The usual business of the World Bank is project-based lending). The objectives of structural adjustment programmes are not confined to restoring macro-economic balance but are also intended to stimulate economic growth. Structural adjustment involves improving the structure of production by allocating resources in accordance with their opportunity cost rather than on any other basis. The argument in support of this approach is that resource allocation efficiency is maximised, increasing the value of current output and improving the prospects for the rate of growth over time and avoiding the need for subsidies and taxes in support of the production structure.

In addition to increased allocational efficiency, structural adjustment is concerned with improvements in both operational and economic efficiency. Operational efficiency is increased when unit costs of production are minimised through efficient management and the adoption of the appropriate technology. Economic efficiency is the consequence of a high level of allocational efficiency plus a high level of operational efficiency and ensures that consumers' needs are satisfied at prices which reflect the minimum sustainable cost of production.

Whilst an improved structure of production, through increased allocational and operational efficiencies, is the central platform of structural adjustment, structural improvements in practice have also included diversification of the economy. That is, by broadening the base of economic activity the flexibility of the structure can be improved and so the economy is better able to withstand external shocks such as a fall in the world prices of certain commodities, adverse weather conditions that impact on particular crops or substantive changes to trading conditions applied by economic blocs like the European Union. The in-built inflexibility of LDC economies meant that the external shocks of the 1970s (e.g. quantum increases in oil prices, world wide recession and the collapse of prices for a wide-range of agricultural commodities traded on world markets) had a far greater impact than they would have had if these economies had a broader base.

The challenge for those charged with developing structural adjustment programmes is to find designs capable of simultaneously stimulating economic growth whilst protecting the population from excessive levels of hardship during the course of the programme. In addition, ESAPs endeavour to make the domestic economy more flexible so that it is better able to cope with changes in the world economy. Overall the objectives of ESAP are to:

- restore equilibrium in the balance of payments
- reduce the fiscal deficit to a manageable size
- bring down inflation
- improve long term employment prospects
- increase investment and
- lead to sustained growth.

In order to achieve these objectives policy makers must:

- identify an agenda of reforms in policies and institutions

- develop a sequence of measures which is technically consistent and politically sustainable and
- negotiate these policies between governments and the lending agencies.¹

The objectives themselves are at the macro-economic level. In most instances they are attempted through policies designed to manipulate supply rather than demand. These policies are directed towards reducing spending overall and redirecting demand towards domestically produced goods.

The World Bank, as was stated at the beginning of this chapter, began its structural adjustment programme in the early 1980s and viewed this as a short term divergence from the business of lending for projects. The expectation was that most countries that instigated structural adjustment programmes would have completed them within three years. Both the duration of individual programmes and the extent to which the Bank would be involved in policy-based lending were woefully miscalculated. Some structural adjustment programmes have extended over eight years or more, and many are in their second and third phases. Moreover, the World Bank's involvement in funding these programmes has continued to increase, rather than diminish, and the Bank has publicly conceded that structural adjustment is:

“...not a one-shot effort...but reflects the need for macro-economic and sector policies to be continuously appraised and modified.”²

All of this points to the fact that a knowledgeable and respected institution like the World Bank is still learning from experience about the processes of structural adjustment. It should not therefore be surprising that other lending institutions, the international donor community, government ministers, policy makers and others involved in the development, implementation or administration of structural adjustment programmes are on a learning curve and as yet have no firm understanding of what constitutes ‘best practice’ with respect to ESAPs. This is hardly surprising since, as Scarborough and Kydd¹ state:

“In countries which have embarked on structural adjustment programmes the breadth of policy reforms, the pace of their implementation and the lack of data has been such that the possibilities for detailed analysis of policy options has been very limited.”

Macro-economic stabilisation

Whereas the World Bank has been the principal sponsor of ESAPs, which focus on the supply side of economies and impact indirectly on the demand side, the IMF has been the champion of economic stabilisation programmes. These operate to stimulate the demand side of the economy and have an indirect effect on the supply side of the economy. Stabilisation policies work to reduce a country's expenditure levels to match its current resources. They do not directly lead to higher growth rates but rather provide the economic stability necessary before increased growth can be a real prospect. Attwood³ explains the objectives of macro-economic reform, thus:

“Macro-economic reform involves creating a conducive climate for investment, addressing the imbalances in public expenditure, reducing the fiscal deficit, increasing parastatal efficiency and appropriate debt management.”

The policy instruments typically employed in the pursuit of economic stabilisation are:

- exchange rate policy
- fiscal policy and
- monetary policy

Thus, for example, export performance (demand) might be improved because the reforms could result in a devaluation of the local currency (exchange rate policy), and/or higher levels of

investor confidence due to inflation being contained as government brings its own spending under control (fiscal policy) and interest rates are allowed to rise to their economic level (monetary policy).

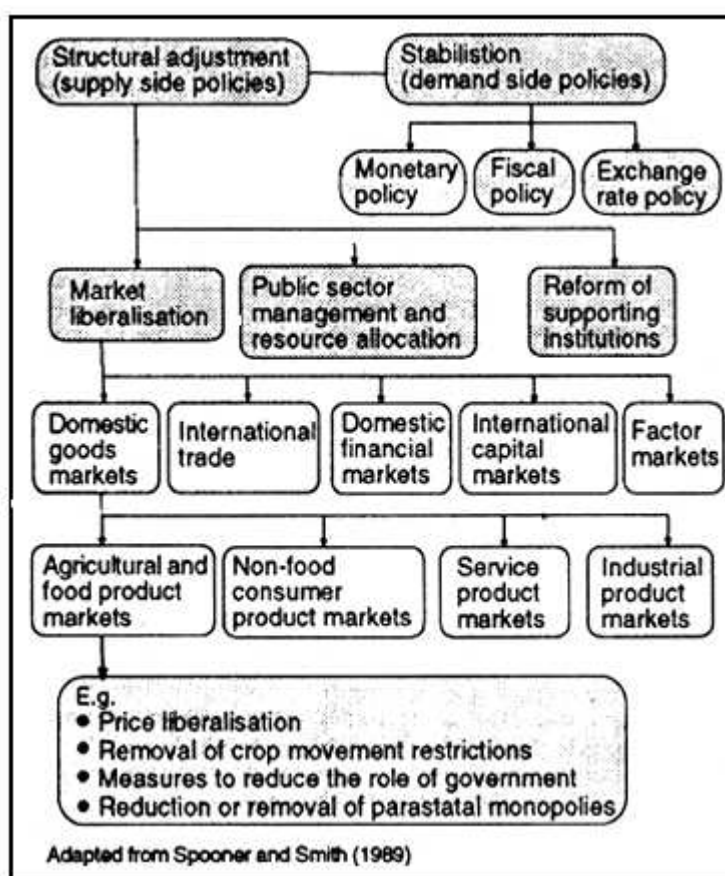
During the earliest round of ESAPs there was a degree of specialisation between the IMF, which handled demand management measures, and the World Bank, which focused on supply management measures. However, during the 1980s the IMF and World Bank began to develop programmes for an

“...orderly adjustment of both macro-economic and structural imbalances so as to foster economic growth while bringing about a balance of payments position that is sustainable in the medium term.”⁴

This move was initiated by the World Bank in 1980 when it introduced its Structural Adjustment Loan (SAL) programme. In the mid-1980s, the IMF launched its Structural Adjustment Facility and its Enhanced Structural Adjustment Facility (SAF and ESAF). These are longer term concessional lending instruments which closely resemble the policy-based lending facility of the World Bank. Countries wishing to take advantage of SAF or ESAF must first develop a Policy Framework Paper, covering the short to medium term and the government has to jointly agree this with the IMF and the World Bank.

Figure 2.1 illustrates the interrelationships between stabilisation and structural adjustment programmes which now exist. Thus, for example, market liberalisation is not only a supply side or structural adjustment instrument, it also has the capacity to contribute towards macro-economic stabilisation since if it is successful in increasing efficiency it becomes possible to reduce subsidies without necessarily having a detrimental effect on the welfare of subsidy recipients.

Figure 2.1 The nature of stabilisation and structural adjustment policies



There is much debate about the sequencing of reform measures. Discussion tends to centre around the ordering of structural adjustment vis stabilisation, liberalisation of domestic vis international markets, and the sequencing of measures intended to liberalise specific markets. There appears to be a widespread consensus that the liberalisation of domestic markets

particularly those in the agricultural sector should precede attempts to liberalise international trade. It is argued that success in liberalising domestic markets would help establish a more robust and flexible economy, one better able to compete in international markets⁵.

A central objective of structural adjustment has been to remove distortions in the economy resulting from government intervention and central control over markets. A secondary objective has been to improve the management of those activities that remain the responsibility of the state in the post-market liberalisation period. Figure 2.1 provides some typical examples of market liberalisation measures which have been applied to agricultural and food sectors of economies.

The role of the state in liberalised markets

Countries undertaking market reforms have had to face the vexing question of what to do about government agricultural marketing institutions. Most of these parastatals have accumulated very large debts and deficits, and have, therefore, been an enormous drain on their treasuries. In some cases, the poor financial performance has been due to mismanagement and operational inefficiencies, but in others government has placed on the parastatal social responsibilities such as the management of the strategic grain reserve and developmental roles involving promoting the interests of smallholder farmers. In general, these social and developmental responsibilities cannot, by their nature, be profitable activities.

Hence, the dilemma of governments seeking to reduce public expenditure, a large part of which has in the past been spent on financing agricultural marketing parastatals, but who cannot afford to allow social and developmental objectives to be abandoned in blind pursuit of liberalised markets. In some cases, governments have disbanded their agricultural marketing parastatals (as in Zambia and Nigeria) whilst others are seeking to restructure these marketing institutions.

The efficient allocation of resources is central to all structural adjustment programmes. This does not preclude the participation of the state in agricultural production and marketing activities. Historically, however, government involvement in many areas of economic activity has proved to be allocationally and operationally inefficient. It has been argued that government structures are not flexible enough to react to changing opportunity costs. Moreover, resources are often allocated on the basis of political considerations and operational inefficiencies arise from the absence of incentives. As a result, structural adjustment has also involved reducing the direct role of the state in marketing.

Strategies for reforming agricultural marketing parastatals^a

In broad terms, there are four alternative courses of action which can be taken with respect to the restructuring of agricultural marketing parastatals, these being:

- abolition of the parastatal, passing its essential functions to the private sector and/or non-government organisations (NGOs)
- transformation of the parastatal into a non-commercial organisation carrying strategic food reserves and stabilising prices
- transform the parastatal into a fully commercial enterprise, operating as a market oriented, profit making concern^b and
- transform the parastatal into a fully commercial enterprise, operating as a market oriented and profit making concern within a competitive marketplace.

a. This section on commercialisation of parastatals draws heavily on E. Attwood, *The Restructuring Of The Agricultural Marketing Parastatals Of Zimbabwe Under The Public Enterprise Reform Programme 1991–1995*, Food And Agriculture Organisation. (Project GCP/RAF/238/JPN). 1994.

b. It is possible to implement policies which result in a public loss-making monopoly becoming a private profit-making monopoly.

The issue of privatisation is not a single option, but a policy direction which itself involves a range of possible options³. These include:

Privatisation of management	That is, ownership of state assets to be retained by the state but management privatised by way of contract.
Privatisation of non-core assets and functions	Another limited form of privatisation is the separation and privatisation of non-core assets and functions. This can involve the sale or lease of some manufacturing and distribution activities (e.g. collection, testing/grading, delivery to low density/rural markets), engaging in joint-ventures with private enterprise, etc.
Partial sale of equity	It may be possible to sell part of the equity of a state owned company. Equity may be sold privately to particular groups, e.g. producers of the raw material, staff members of the enterprise, indigenous people etc. However, such a method of disposal is likely to be costly to the government since the equity would probably have to be sold at less than full market value. The government could opt to sell part of the equity through a stock exchange flotation.
Full privatisation	This is the most difficult to achieve in the case of most agricultural marketing parastatals because they generally have social objectives that have overshadowed any commercial objectives. Potential investors may have little interest in being saddled with the residual social objectives, where these exist. Furthermore, their poor financial position makes them a high risk investment and their acquisition would immediately and adversely affect the share values and financial standing of their purchaser. Moreover, to fully privatise a parastatal would give a strong signal on future government policy with respect to public ownership generally.

The options discussed here need not be considered as being mutually exclusive. It is conceivable that several elements could be combined within a single reform programme. For instance, once the relevant market(s) have been liberalised, it would be possible to contract out the management of a parastatal and at the same time privatise non-core assets and/or functions whilst retaining public ownership of the parastatal. Other combinations are equally possible. The parastatal could be divided into several strategic business units (SBUs). For example, a Livestock & Meat Marketing Board could be divided into the following business units:

- procurement and fattening
- animal procurement advisory service
- auction management
- animal health and development advisory services
- abattoir services
- meat grading and packaging and
- meat marketing services.

In many senses each of these business units operates in different, although related, markets, as SBUs could each be a cost and profit centre. Once organised in this way they can be treated independently of one another. Thereafter, a number of opportunities arise due to the flexibility which such a major reorganisation would create. Depending upon circumstances, some could be privatised, some might be the object of joint ventures, other could remain in public ownership but their management be privatised in an attempt to increase efficiencies whilst reducing government expenditure and others might remain as government owned and managed public enterprises.

Obstacles to be overcome in commercialisation and privatisation of agricultural marketing parastatals

An agricultural marketing board, or any other form of parastatal marketing organisation, can be commercialised and/or privatised. The process of commercialising an agricultural marketing parastatal involves management in establishing return-on-investment, turnover and profit targets. In order to achieve these targets the parastatal is expected to adopt a market orientation. In addition, the commercialised parastatal would be expected to raise funds on the financial markets of the private sector and pay interest at the market rate rather than rely upon public funding. Privatisation takes the additional step of transferring ownership of the parastatal out of the public sector and into the custody of private investors. The transfer of ownership can be effected in a number of ways. Shares in the enterprise can be floated on the stock exchange or can be sold to special interest groups such as management, employees or suppliers (e.g. a Dairy Marketing Board could be sold off to milk producers). The restructuring of a public enterprise involves two key preliminary steps:

- transformation into a genuinely viable commercial enterprise, earning a realistic return on capital and with a balance sheet fully aligned to trading results.
- transformation of the enterprise's special legal status into that of a normal commercial institution with no special trading rights or privileges conferred by statute.

An initial step might be to appoint a Board of Directors as Zimbabwe did with its four agricultural marketing boards. (i.e. the Dairy Marketing Board, Cotton Marketing Board, Grain Marketing Board and Cold Storage Commission). These independent directors can then be asked to exercise their collective judgement as to how the enterprise can be made more efficient and better meet customer needs. There then has to be a significant degree of deregulation of the markets which these enterprises serve, with more autonomy for the marketing boards, especially in pricing. Another priority is to deal with the accumulated debts of parastatals, where these exist.

Before the processes of commercialisation or privatisation can commence there are usually a series of obstacles to be overcome.

Accumulated deficits: Boards which are in a relatively strong financial position are far better placed to undertake restructuring than those carrying large, accumulated deficits. The dilemma faced by policy makers is to decide how to handle these deficits. If they are simply written off by the government then this provides the parastatal with 'free' capital, an unfair advantage over potential competitors and provides no evidences of the organisation's future viability to prospective investors. Even where there is no intention to privatise the parastatal, the provision of free capital runs contrary to the spirit of transforming an organisation into a fully commercialised enterprise.

Source of finance: Many marketing boards carry large deficits and need fresh injections of cash. However, the magnitude of these deficits usually discourages commercial lending institutions from supporting them. International donor agencies are a possible alternative source of funds but their rules of operation often prevent them from providing concessionary loans to the private sector, even recently privatised parastatals; these could however be available to a commercialised parastatal.

Tax liabilities: Potential investors would be concerned about the liability of a restructured marketing board to corporation tax. A commercial company which makes losses over a period of time can usually offset these against profits made in other years, for the purposes of assessing its tax liabilities. How governments treat the losses made by marketing boards prior to privatisation will have a significant bearing on how they are perceived by potential investors. The magnitude of the losses are such that if the accumulated losses were written off against future profits, it might be a very long time before the enterprise paid any tax. On the other hand, if no allowance is made for these losses then the marketing board constitutes a most unattractive investment.

Developmental roles: Marketing boards, and other types of parastatals, frequently have development roles, that is, activities and projects whose aim is to lead to the long term development of a sector of agriculture, a section of the population and/or a region of the country. For instance, a parastatal may be charged with helping convert subsistence farmers into cash crop farmers, or helping small scale farmers penetrate a dairy market dominated by large, commercial farms. Problems arise when the board has development responsibilities but no provision has been made for an adequate system of financing. In principle, the problem is easily solved in the case of commercialised, but not privatised, parastatals. That is, non-viable development activities should be separately identified and financed by government. The difficulty is that the accounting systems used by many parastatals are simply not capable of accurately separating out commercial from non-commercial activities or their attendant costs. Where the intention is to privatise the parastatal it is unlikely that prospective stakeholders would accept a development role unless the particular activities could be carried out at a profit. Even then, private investors would usually want to reserve the right to withdraw from an activity, if they identify alternative opportunities which offer a higher return on investment.

Another complication is the fact that governments tend to have wide-ranging political, social and economic objectives, many of which are likely to transend some of the aims of parastatals restructuring (e.g. indigenisation of an economy, drought recovery, etc.). This makes it difficult to deal with the restructuring or reform of an agricultural marketing parastatal in isolation from an array of confounding development issues.

Legislation: The restructuring or reform of marketing boards and other parastatals will invariably involve the amendment or repeal of a substantial body of legislation relating to a board and the products for which it has been responsible. Rarely is this a simple matter of withdrawing the prevailing legislation. In the case of agricultural products, legislation relates to a number of different issues economic, public health, research funding, etc. Whilst the processes of deregulation may focus on the economic and marketing issues, the public health measures cannot be swept away along with defunct rules and practices which related to controlled markets. Rather, it is likely that public health aspects will have to be reinforced and strengthened since deregulation often means that the number of market participants will increase in number. Similarly, the need for industry-wide funding of research and the provision of industry-wide services remains unaltered.

It is therefore necessary to review the whole corpus of legislation which directly or indirectly relates to the marketing board concerned, to decide the parts which can be repealed, those which should be retained and those which need to be amended. This process might involve the Ministry, the Office of the Attorney General, Parliament, a Cabinet Committee and then, perhaps, the Head of State. Each of these participants is likely to have a wide-ranging portfolio and agriculture is but one of them. Not surprisingly, therefore, effecting the necessary regulatory changes can take a considerable time, even when the government and the management of the parastatals are wholly committed to change. All too often, the time scale for legislative changes is underestimated by those who develop restructuring programmes.

The legislative issue is not of itself a major constraint, but the volume of work involved takes time. As in all aspects of government business, the passage of new legislation through the system will have to take its place with other new legislation before it can be passed into the law of the land. This inevitably affects the rate of progress of the restructuring of any government parastatal.

Dealing with accumulated deficits

Government capital investment in agricultural marketing parastatals often takes the form of irredeemable interest-bearing loans. The interest rate is usually highly favourable to the parastatal, compared to the rates prevailing on the open money markets. In most instances the government does not actually receive the interest due on parastatal deficits. Converting debt to equity improves the look of the balance sheet since debts must be repaid and at a specific point in time whilst equity belongs to the owners (i.e. shareholders) of the business and they only receive payment whenever the enterprise makes sufficient profits to pay out a dividend. A highly geared enterprise (i.e. one whose capital is largely comprised of debt borrowing) is generally

perceived to be more of a financial risk for investors than one which largely depends on shareholder funds and retained earnings to finance its operations.

Where governments of developing countries have considered exchanging their outstanding loans to parastatals for equity, it is often solely with an eye to reducing or eliminating the interest payments of a beleaguered marketing board. This, however, is unsatisfactory where the enterprise is supposed to be of a commercial character. If little or not return is paid on the capital sums outstanding to government then this treats capital as a 'free good', which it is not. This is neither good in the campaign to engender 'commercial attitudes' within a former parastatal nor in the context of creating a 'level playing field' for emerging competitors (where these exist) who do not have access to free capital. Where governments provide 'free capital' to privatised parastatals it is an admission of failure to run the business as a commercial concern. Since equity capital carries higher risks than loan funds, over several years shares should earn a higher return, otherwise no equity investment would be made.

There may however be a case for writing off capital investments which were based on wrong assumptions or wrong policies in earlier years. For instance, investments may have been made in establishing poultry enterprises in rural areas in anticipation of the electrification of those districts or villages. If for whatever reasons, that electrification has not taken place, those production units will be unviable and it would be best to write them off. A debt-equity swap would, at best, be self-delusion and at worst, would be concealment of a futile kind.

Encouraging private sector involvement in agricultural marketing⁶

In many cases the donors or lending institutions have made market liberalisation and encouragement for increased private sector participation part of the conditions attached to their structural adjustment loans. In some instances, the reform or abolition of a loss-making agricultural marketing parastatal has also been part of the agreement between the lender and the loan recipient.

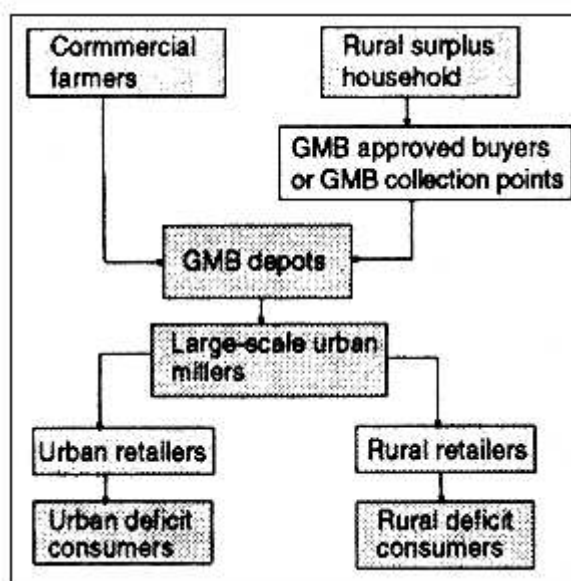
Experience of implementing these reforms has been varied. In some cases, private sector participation has developed very quickly whilst in others, the process has been extremely slow. Much depends upon the stage of development of the private sector at the time market liberalisation measures are launched. In some countries, strong 'informal' or parallel marketing channels have co-existed with the formal channel throughout the period of administered pricing and "controlled" marketing of agricultural products. When these markets are deregulated the process of transferring 'informal' marketing functionaries into the formal sector tends to occur quickly. The entrepreneurs already exist and they have accumulated a certain amount of capital from their past marketing activities. On the other hand, where governments have been successful in suppressing informal marketing activities, the experience and culture of entrepreneurship and risk-taking may have been lost, or at least significantly diminished. In these cases, private sector participation in deregulated markets is a much slower process.

To illustrate the radical changes which market liberalisation can bring to a marketing system, consider figures 2.2 and 2.3 overleaf. Figure 2.2 depicts the formal grain marketing channels which served Zimbabwe prior to market liberalisation. The Grain Market Board (GMB) held both a monopsony and a monopoly with respect to the staple food of the country, white maize. The GMB supplied large-scale millers located in the urban centres of Zimbabwe. A parallel channel did exist with unlicensed traders buying and selling grain and small-scale millers, using hammer mill technology, providing a service to customers. However, this illegal trade was conducted on a very small scale and the bulk of the grain passed through the formal single channel comprising the GMB and urban millers who used industrial roller milling technology.

The Zimbabwean Government paid subsidies to the GMB both in order to keep consumer prices down and to ensure a steady supply of the country's staple food. Prices to the farmers for maize were determined by the government rather than by market forces. Whilst in years of normal rains Zimbabwe can grow enough grain to feed itself and can even export white maize, the total amount of grain handled by the GMB was showing a discernible fall as the large-scale commercial farmers began to grow alternative and more profitable crops.

c. The section on private sector involvement in agricultural marketing draws extensively on A. Thomson and N. Terpend, *Promoting Private Sector Involvement In Agricultural Marketing In Africa*, FAO Agricultural Services Bulletin 106, Rome, 1993.

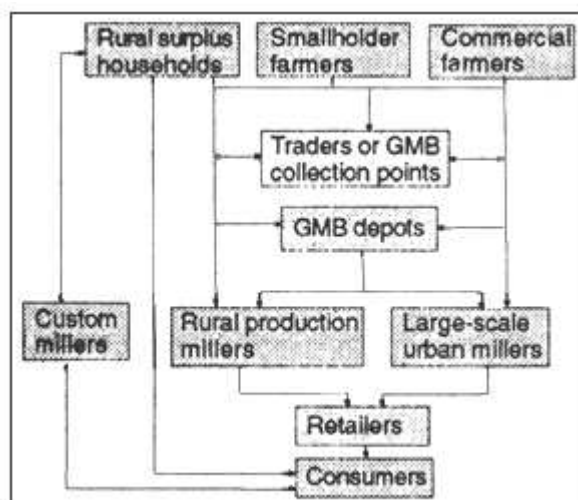
Figure 2.2 Zimbabwe's formal grain marketing channel prior to market reform



As trade in maize was deregulated, the number of custom millers increased substantially. (Custom millers mill grain which the customer brings to them. They do not provide the grain). A number of production millers also came into being. Production millers buy, mill, bag and brand maize grain using hammer mill technology. Market liberalisation brought many more players into the marketing system, giving growers a choice of market for their product. There is now more competition for the farmers' maize. Consumers have also benefited. They now have a wider range of products from which to choose. Price sensitive consumers can now buy grain direct from growers, or the GMB, and take it to a custom miller. The straight-milled maize is the cheapest of the options, available. Alternatively the consumer can buy the more refined product of the production miller who dehulls the grain before milling. This is more expensive than straight-run meal but not so expensive as the highly refined meal produced by roller mill technology.

The increase in the level of competition has also manifested itself in the form of marketing promotions. Prior to market liberalisation the active promotion of maize meal was virtually unheard of in Zimbabwe. The large-scale millers were assured of a sizeable demand for their product. After all, it is the staple food of the country and they were the sole suppliers. In the post-liberalisation period advertising expenditure on roller meal brands has increased substantially and in-store promotions are increasingly common.

Figure 2.3 Zimbabwe's liberalised grain marketing system



Impediments to private sector participation in agricultural markets

Initially, the World Bank attached great importance to increasing the efficiency of parastatals as a means of bringing about market reforms. After all, agricultural marketing parastatals typically represented a sizeable burden upon the governments of LDCs and were characteristically inefficient.

However, in due course the Bank began to see greater potential in the liberalisation of markets and the privatisation of marketing institutions. Marketing reforms have tended to follow a pattern. In most cases, the first step has been to enfranchise private traders and actively encourage them to participate in markets from which they were previously excluded. The next step has been the removal of price controls. Marketing subsidies and parastatal subventions are then removed before the final act of market reform, i.e. the lifting of controls on international trade in agricultural products.

Scarborough & Kydd suggest that the following are necessary in order to promote an efficient private sector:

- encouraging and policing competition
- promoting the wider availability of information
- maintaining appropriate quality standards
- strengthening the legal system to ensure enforceability of contracts
- providing an adequate transport infrastructure
- undertaking spatial planning to allow appropriate access by marketers and consumers to central places
- supporting the development of credit
- research into the technological problems in storage and processing experienced by the private sector (which will be likely to be operating on a smaller scale, and facing different relative factor prices than parastatals) and
- training in technical and managerial aspects of marketing, processing and storage.

Prior to liberalisation government actions were perhaps the most significant impediments to private sector trade development. Although market liberalisation has, in most instances, changed government policy towards the private sector, the relationship between the state and commercial enterprises remains critical in determining the likelihood of success of any privatisation initiatives. The state effectively sets the rules of the game within which the private sector operates, and if these rules are too restrictive, or if they change too frequently, then private sector participation may well be inhibited. Here, consideration is given to some of the potential impediments to private sector participation in agricultural markets. As shall be seen, many, but not all, of these impediments are within the direct control of government.

Policy implementation: Even when government is committed to encouraging private sector participation in agricultural marketing, the bureaucracy which implements policy changes may be less committed. Years of market controls and licensing may have created large vested interests in an underpaid civil service, which may see the spectre of retrenchment in deregulation measures. It is therefore not impossible that government policy is undermined at the implementation stage.

In the past, many LDC governments have been openly hostile to the private sector and so any trust established between the two parties is likely to be fragile. On the side of the private sector, bureaucratic delays will almost certainly be interpreted as an absence of real commitment, on the part of government, to free market economics and a suspicion that market liberalisation measures might be reversed at any time.

Licensing: A common post-liberalisation regulation is the requirement for traders to be licensed. This has been a feature in Malawi, Mali, Senegal, Uganda, Zambia and Zimbabwe, among others. Licences allow some residual control over the private sector; licences can be refused to traders suspected of unfair trading practices and can enable the state to collect marketing information. In some cases, the administration of trader licensing has presented prospective traders with few difficulties. In Malawi, for example, merely have to pay a registration fee and provide evidence of ownership of a seized weighing scale. In contrast, Uganda has used licence fees as an overt tax on traders; and in Senegal, traders dealing in more than 200 kg of grain have to obtain a licence, and an authorisation to collect a specific product. Authorisation is only given after the trader has shown proof of a minimum balance in his/her bank account.

The administration of licences has been inconsistent. Sometimes the bureaucracy involved in applying for licences imposes substantial costs on traders in time, bribes and fees. At the beginning of a liberalisation process, licensing regulations may not be well publicised, or may change, leading to uncertainty among traders.

Quantitative restrictions: Traders are sometimes limited to transporting loads of a specified amount. This can impose costs on traders, as there may be economies of scale, which increase the efficiency of the marketing system. Quantitative restrictions can be imposed in a variety of ways. For example in Zimbabwe, even though a maize marketing liberalisation programme had been implemented, the Grain Marketing Board (GMB) refused to sell maize in quantities less than 50 kgs. This effectively prevented very small traders, without transport, from participating in the maize marketing system. Even if the prospective Zimbabwean trader can afford to hire a truck, he/she probably will not be able to purchase enough grain to make up an economic load. Chisvo et al⁶ put the problem into perspective when they state:

“Buying enough maize from the GMB to fill a 5-tonne truck requires almost twice the annual income of the average Zimbabwean...Those actually involved in grain trading, with few exceptions, reported that their only source of working capital was their own savings...Those who can capture scale economies using their own cash are relatively wealthy traders.”

Rigid and uncertain regulations: Regulations, rather than direct intervention measures, can be the principal instrument of government policy. If regulations are too rigid then parallel or ‘informal’ markets may re-emerge. This has happened in both Senegal and Uganda. Moreover, access to the legal system, where this becomes necessary, has to be both quick and inexpensive.

The uncertainty surrounding the regulations which are to apply to the private sector can also prove an impediment to private sector participation in agricultural marketing. During the early stages of market liberalisation, changes to regulations may occur fairly frequently and this unsettles would-be investors in the agricultural marketing system. This can happen because the impact of liberalisation is difficult to predict, and as government monitors the process it may feel it necessary to tighten or relax the regulations surrounding the private sector as time passes.

Price regulation: In order to retain a measure of control over food prices some governments have continued to impose price regulations in the post-market liberalisation era. These frequently take the form of floor and ceiling prices. These can have a substantial impact upon private trade. Private traders require a return on the resources which they invest in the marketing process. They will concentrate on those areas where marketing activities are most profitable, usually collection of grain near urban consuming centres, and ignore more distant markets where the information is poorer. This is certainly what happened in Malawi and Tanzania. Where government set narrow price bands within which the private sector must operate, these patterns are reinforced.

Smith⁸ recommends that government seeks to reduce the number and breadth of regulations to a minimum consistent with orderly production and marketing. He cites the example of the frequent requirement to obtain licences to trade and the need for separate permits for each commodity or groups of commodities in which traders wish to deal. Very often it is necessary to register the premises within which trade is to take place, and there may be restrictions on the quantities which can be traded and the times and forms of trading (e.g. wholesaling or retailing). Very often the

reasons for many of these regulations have long since forgotten but traders remain on the statutes of the country. There are thus many instances where a simplification and reduction of regulations, and their consistent application, would remove a deterrent to private sector activities.

Case 2.1 Tanzania - Policy Transparency And Implementation

Effective liberalisation requires that prospective traders know what activities can be legally undertaken. In Tanzania, there was confusion at the local and village level as to the degree of liberalisation which had been implemented. Policy was primarily communicated through ministerial statements and answers to parliamentary questions. These channels of communication were neither reliable nor consistent in reaching the target audiences. Changes in regulations were not formally incorporated in legislation. In consequence, the enforcement of regulations varied from district to district.

Some of the confusion appeared to be the result of changes in regulations. Deregulation of the wholesale trade in 1988 resulted in the private sector being able to transport grain to the main urban areas at a lower cost than the public sector through more efficient use of resources. This cost differential was reinforced by the absence of storage costs in the private sector (little storage was undertaken by the private sector), but with considerable storage costs being covered in the public sector. Open market prices fell below official prices, and made it difficult for the grain marketing parastatal NMC to sell grain, a necessary element for the effective management of the Strategic Grain Reserve.

Government responded, in 1989–90, by forbidding private traders from buying grain direct from farmers. Instead, they had to buy from NMC or the co-ops. This policy was reversed just a few months later when NMC became insolvent and was removed from the grain markets. Frequent policy changes of this kind add to the private sector's costs in the form of risks and information collection with respect to current government regulations and disruption to their planning activities. If traders cannot rely upon a stable regulatory environment then they may be discouraged. The costs of operating in a formal economy with changing regulations may be greater than those of operating on parallel markets.

Differing interpretations of policy, at local and central levels, due to conflicts of interest, can add further to the confusion. Local government has been partly financed through taxes on crop sales which have been collected through the primary co-operatives. Present legislation enables traders to buy direct from farmers, with the permission of the local authorities, and on payment of the crop

tax. However, some local authorities prefer purchases to go through the primary co-ops because it is easier to collect the crop tax.

Local authorities cannot forbid movement of grain out of a district, if taxes are paid. However, in a bad harvest year they may try to prevent movements out of areas normally in surplus, though they have no right to do so. Officially, only imports and exports are controlled. However, local authorities may feel that they can protect their own areas from the effects of drought by introducing movement controls.

There appear to be considerable problems in communicating policy from central to local government, which is compounded by frequent re-interpretations of policy. Some experts believe that uncertainty over regulations is a major impediment to private sector entry into grain marketing in Tanzania. In practice, those who have good political connections seem to fare best.⁷

Public and private sector competition: In many countries, liberalisation has allowed for the co-existence of public sector agricultural marketing institutions (i.e. parastatals and/or government supported co-ops). The public sector institutions may perform a market stabilising function, as say a buyer-of-last-resort, they may be the conduit through which food aid is released on to the market or they may manage the Strategic Grain Reserve.

Problems arise when public sector bodies benefit from support which is not extended to the private sector. For example, subsidies on inputs, such as fuel, may only be available through public sector agents. Similarly, public and private organisations may not have equal access to credit and finance. Many state bodies have historically had easy access to finance, often at subsidised terms, and without regard to the profitability of their operations. This has two negative effects on the private sector: it reduces the public sector's costs of operations, giving it an unfair competitive advantage, and it reduces the capital available for investment in private sector agricultural marketing operations. Tanzania's private sector became the dominant grain marketing force in 1990 when it was decided that parastatals and co-ops should only have access to credit on commercial terms. Neither of these parties was considered a commercially viable agency so they could not obtain the funds they needed to carry on their marketing activities at the same level as in the past.

Public sector marketing organisations have often enjoyed preferential access to foreign exchange. Input and output markets are often interlinked through credit arrangements. Where farmers rely on credit from marketing agents to buy imported inputs, private traders who have difficulty in acquiring these imports, may be disadvantaged in dealings over output trading. They may also have difficulty in obtaining access to fuel and transport, spare parts in particular, if they cannot compete for foreign exchange. In many countries, exporters are prohibited from retaining foreign exchange earnings but must convert it to local currency at official exchange rates. This has sometimes led to flourishing cross-border parallel markets. This caused the Ghanaian government to institute a foreign exchange retention system, in the post-liberalisation period, whereby cocoa exporters could keep a proportion of the foreign exchange they earned, thereby reducing the incentive for smuggling. A similar scheme operates in Tanzania where 35% of export earnings can be retained to purchase production inputs.

Inadequate infrastructure: A major problem for traders in many countries is the low investment in infrastructure. In Africa, poor roads and inadequate storage facilities contribute to high marketing costs and commodity losses. In Uganda, some traders claim that the number of trips they can make have decreased to a fifth of what they could make ten years ago because of large increases in transport times and costs. Most small traders rely on public transport, or hiring space

on trucks. Access to transport and ownership of trucks is often the basis for local monopolies in the transport sector, which increase traders' costs. The problem is all the more acute where foreign exchange shortages compel government to restrict the import of trucks and spare parts.

Adequate storage facilities can reduce crop losses and thereby food marketing costs. These often tend to be lacking in local markets, where a high proportion of grain trading takes place. Local market organisation is often the responsibility of local government. In some instances, market fees may be inadequate to maintain the market structure, or may be diverted to other areas of government expenditure. The absence of storage facilities also discourages traders from holding grain over time. This in turn prevents the development of private sector arbitrage which can moderate seasonal price fluctuations.

Credit constraints: Most small traders have restricted access to formal credit markets, and tend to borrow from informal sources. These can be extremely expensive sources of funds and often lock the borrower into a never-ending cycle of debt. Commercial lending institutions are neither used to, nor motivated to lend to small-scale marketing enterprises. Financial institutions prefer to lend in large amounts to large, established enterprises operating in high profit markets. Complete liberalisation of financial markets can actually lead to a shortage of capital for investment in agriculture since it tends to be a low profit sector of the economy.

Lack of access to credit and finance prevents small traders from expanding. The quantities of commodities bought and sold, the amounts stored and transported and the ability to exploit economies of scale are all restricted by poor access to credit.

Problems are bound to arise in the agricultural marketing systems of countries which have implemented market liberalisation programmes if the financial system cannot be reoriented to service a large number of small private sector marketing agents as opposed to a few very large public sector organisations.

Marketing information: With long established private sector marketing systems, informal networks usually exist to provide traders with information on market conditions, prices and the credit-worthiness of other parties. Conversely, where suppression of the private sector has been effective, in the past, the marketing information system tends to be underdeveloped. This was the case in Malawi where traders remained unaware of price differentials between markets and were unable to exploit opportunities for profitable market arbitrage which would also have increased market efficiency. Where there have in the past been strong parallel markets, information systems may exist but access to them may not be extended to post-liberalisation market entrants.

The impact of the macro-economic environment on private traders

So far in this chapter consideration has only been given to impediments to private sector investment in newly liberalised markets that operate at the micro-economic level but there are also macro-economic aspects of the problem. In particular, private sector participation is affected by exchange rate policy, economic stabilisation measures and the level and nature of economic aid.

Exchange rate policy: To improve the balance of payments, exchange rate devaluation is usually implemented. Devaluation increases the cost of imports, and with it many agricultural marketing costs are increased e.g. packaging/bags, fuel and transport costs, agricultural inputs and imported foods. Where the private sector is involved in the marketing of imports, government needs to acknowledge where price increases are due to devaluation rather than the result of privatisation. Equally, where the private sector is operating under controlled prices, the allowance for marketing margins accommodates increases in cost due to devaluation.

Domestic stabilisation policy: Stabilisation programmes usually mean improved budgetary control through stricter monetary control, reductions in expenditures and tax increases. Each of these is likely to impact on both traders' costs and revenues. Austerity measures invariably reduce demand for most products and at the same time traders can find that they result in substantial increases in interest rates, licence fees, market fees, sales taxes, etc. The danger is that traders can be driven back into informal markets where some of these costs can be avoided.

Economic aid: Structural adjustment programmes normally attract an increased inflow of aid from donors wishing to support the reforms. Much of the additional aid will be in the form of foreign exchange but some will be food aid or fertilizer aid. The way in which this aid is distributed can impact seriously on the development of the private sector. For instance, the private sector needs access to foreign exchange on the same basis as the public sector and co-operative agencies. Food and fertilizer aid distribution can have a more disruptive effect on private trade if it is not carefully timed. An influx of cheap food can reduce prices and cause considerable losses for private traders who have stored food grains. A system of distributing aid through auctions has worked well in Somalia and could work elsewhere.

Governments have to be careful in accepting aid projects which compete with potential private sector initiatives. These might be, for example, projects to build processing plants or storage facilities. Government has to be clear where it wants to encourage private sector investment. Governments can seek assistance from international donors on behalf of the private sector. Help can be sought to improve transport facilities or access to credit, or to fund training in technology, technical competence or business skills.

Government action to improve private sector performance

There are a number of areas in which government can lend support to the development and expansion of the private sector.

Clear policy statements: The state has to make clear its view of the role of the private sector in agricultural marketing system, i.e. it must have clear objectives with the respect to the marketing system. It is not enough to simply lift existing restrictions on the functions of the private sector. A positive role should be developed for it. The government's policy has to be announced in unambiguous public statements, which make clear the extent of market deregulation.

It is equally important that the extent of the future involvement of the public sector in the agricultural marketing system be clearly articulated. If the public sector is allowed to enter the market, it must be known under what conditions, at what prices, and for what purpose this will occur. If a Strategic Grain Reserve is held then the trigger for grain release must be known to the private sector. Otherwise, uncertainty about the likely effect of government policy on market conditions will prevail.

Regulatory framework: All too often in structural adjustment programmes the need for supporting legislation is either under-estimated or neglected altogether. Government can provide a set of stable regulations which would:

- clearly lay out the rights and obligations of consumers, producers and traders, underpinned by a carefully constructed contract law
- establish an acceptable system of weights and measures and perhaps a product grading system
- clearly specify the kind of exchanges that are legal, between which parties, and the constraints placed upon the place of exchange and
- the designation of an inspectorate to enforce the rules and regulations.

Case 2.2 Uncertainty Over Government Policy With Respect To Public Versus Private Sector Marketing Of Agricultural Products

In Malawi, one of the problems which has been identified in the process of liberalisation is the very seasonal nature of private sector trade. Traders are also unwilling to become involved in the distribution of inputs, and, perhaps more importantly, sell grain in the rural areas in the

pre-harvest period. There are a number of possible reasons for this.

ADMARC, the state marketing agency, operates on a pan-seasonal price basis, which may give insufficient profit to the private sector to operate outside of the harvest period. Much of the private sector trade appears to take place before the ADMARC buying stations open for the season. There appears to be a lack of storage in the private sector. There may be insufficient information about the need for urban-rural grain flows in the pre-harvest “hungry” season. Survey evidence suggests a substantial demand for grain in rural areas but most private trade moves grain from the rural areas to the towns.

In the case of fertilizer distribution, lack of private sector distribution is undoubtedly related to the operation of the government subsidy programme. Overall development of medium to large firms, specialised in grain trading, will be hindered unless the obstacles to building up a year-round business dealing in both inputs and outputs are identified. There may be problems both of uncertainty and transitional adaptation, and of government policy, with respect to pricing and the activities of ADMARC.⁷

Training: Many of the entrepreneurs who come into a liberalised market will lack the basic knowledge and skills to ensure that their businesses can survive the periodic adverse economic conditions. Some may be technically proficient but know little about financial management or marketing; others may possess the basic entrepreneurial skills but have very limited levels of technical know-how. If government wishes to establish a private sector capable of growth and development then training programmes will be required. This does not necessarily mean that government has to provide or even fund the training. It may mean, instead, that government facilitates the training.

Infrastructure: Investment in roads, market places and storage facilities can reduce marketing costs and thereby increase levels of commercialisation. This might involve investing in new facilities and/or rehabilitating existing facilities. Where public sector marketing boards have under-utilised capacity, particularly in storage, this should be made available to the private sector, either through divestiture or through leasing arrangements.

Information systems: The provision of market intelligence removes a barrier to market entry. Larger and longer established organisations, including marketing parastatals, have usually developed intelligence gathering systems over time. They have little motivation to share their information with smaller enterprises. In fact, to do so would lose them an important competitive advantage. This being the case, a government sponsored marketing information system would improve market transparency and help small-scale enterprises compete more effectively with larger organisations.

Case 2.3 Providing Appropriate Market Infrastructure

In Dar Es Salaam and the regional capitals in Tanzania, wholesale marketing takes place in cramped conditions with few facilities for shelter or storage. Traders move their produce on as quickly as possible, to reduce losses from rain and theft. In most of these locations there are few

facilities for weighing grain, and sometimes water and sanitation are also missing.

In some markets, traders have organised in small groups to build crude shelters, but provision of more elaborate facilities are clearly beyond their capacity. Care has to be taken that these are built in appropriate locations. In Dodoma, the council has built a new wholesale market which is currently being used to about 10% of capacity. This is partly because of its location, and partly because it has been built as an auction market, which is not the basis on which wholesale grain trade takes place in Tanzania. Consultation with traders would help avoid this waste of resources. However, there are indications that other local authorities have been impressed by the appearance of the Dodoma market, and are contemplating building similar markets.⁷

Transport: Transport shortages are a common complaint among private sector agribusinesses. This is especially true of small-scale businesses located in rural areas. Perhaps the best government can do is to give transportation a high priority within its foreign exchange allocation so that more vehicles, spares and fuel can be brought into the country. Emphasis should be placed on increasing the number of vehicles in the possession of the private sector.

Credit: Since poor access to credit and other forms of finance are a major obstacle to the private sector, especially the small-scale operator, government may have no choice but to get involved in establishing appropriate lending schemes. These may be financed from the Treasury, through special funds provided by international donors or through savings and credit schemes initiated by the private sector itself. Alternatively, government can encourage commercial banks to set special loan schemes targeted at various sub-sectors of agriculture and agribusiness. Due to the inherent risks in agriculture, and in dealing with small businesses with very limited resources, lending institutions will probably require some form of government underwriting of these schemes.

Case 2.4 Malawi's Attempt At Directing Credit Towards Private Traders

The difficulties which can arise in developing and implementing credit schemes for private traders are immense, and not always easy to anticipate. An agreement was reached between the Government of Malawi and the World Bank, in the mid-80s, that 1.5 million Kwacha was to be made available for lending to private traders. The money was lodged with the Reserve Bank of Malawi (RBM) which would lend it on to a disbursing institution. After much discussion, the government decided that SEDOM, (Small Enterprise Development Organisation of Malawi), an organisation set up with EEC funds to lend to small-scale industry, should be the disbursing institution. SEDOM appears to have been reluctant to handle this programme and negotiations with RBM over who would cover the running costs of the programme were protracted. Eventually an agreement was signed between RBM and SEDOM in 1990. The announcement of the programme excited considerable interest among Malawian businessmen. However, there

was confusion as to the precise process for the loan disbursement from RBM, SEDOM expected a tranche of money to be transferred up front, whereas RBM operates a system of reimbursing organisations after the loans have been made. Up Until August 1991, no loans had been made under the programme.

This may be a rather extreme example of poor communications between organisations, but it is also indicative of a general unwillingness to get involved in extending credit to private traders, who are seen as having little collateral to offer and therefore are very poor risks. It is not enough for donor agencies such as the World Bank, or governments, to allocate funds for credit programmes. They have to be prepared to invest time and money in developing new and flexible lending procedures.⁷

Summary

Market liberalisation, including the reform of agricultural and food markets, is a key element of economic structural adjustment programmes. The origins of the term structural adjustment rest with the entry of the World Bank into policy-based lending, in the early 1980s. It refers to restructuring production so that the allocation of resources is based upon opportunity cost and in this way optimises the outputs of those resources. Thus structural adjustment is intended to lead to economic growth. Originally the supply side policies of the World Bank were pursued independently of the economic stabilisation programmes of the IMF, which deal more with the demand side of an economy. However, since the mid-1980s the two organisations have worked together to ensure that structural adjustment and stabilisation programmes have complemented one another.

Before the benefits of ESAP can be realised, policy makers must arrive at an agenda of policy and institutional reforms and design a sequence of measures which is technically consistent and politically sustainable. Unfortunately, there is little informed guidance available to them in their task, because there is no substantive empirical understanding of best practice in structural adjustment. It is likely to be a considerable time yet before enough data has been collected and analysed to provide a basis for guiding policy makers.

A major question for most LDCs that seek to implement ESAPs is what role, if any, to assign to agricultural marketing parastatals after markets have been liberalised. The options range from disbanding them altogether to privatising either the organisations themselves or their functions. These are not easy decisions. If these parastatals are abolished then there has to be solid evidence that there are other organisations both able and willing to perform their functions. Some of these functions may prove wholly unattractive to commercial enterprises but must be performed by one agency or another (e.g. management of the strategic food reserve and developmental projects). If, alternatively, the decision is to privatise an agricultural marketing parastatal then, in most cases, difficulties such as accumulated deficits, credibility with lending institutions and future tax liabilities first need to be overcome.

More often than not encouraging the private sector to invest in liberalised markets is an integral component of ESAPs. It is reasoned that a competitive private sector can greatly improve the efficiency of a marketing system. There are, however, a number of impediments to the participation of the private sector when markets are opened up to competition for the first time. These include a lack of trust, on the part of prospective entrepreneurs, that market liberalisation measures will not be reversed, trade licensing and regulatory arrangements that are perceived to be too restrictive, the continuance of any form of price control and uncertainty that surviving marketing parastatals will not be given unfair advantages over them. Other common impediments are inadequacies in marketing infrastructure, access to credit and access to

marketing information.

Private sector participation in liberalised agricultural markets is also influenced by macro-economic as well as micro-economic policies. Exchange rate policy, economic stabilisation measures and the inflow of economic aid to the country all influence the incentive to private entrepreneurs to enter the liberalised market.

Governments that sincerely wish to encourage private sector participation in the marketing system should ensure that policy statements are widely communicated and unambiguous in the intent to promote private sector involvement; should develop a supportive regulatory framework; need to provide technical and entrepreneurial training; have to initiate improvements in the marketing infrastructure; promote the establishment of a marketing information system to guarantee market transparency and help prospective participants to gain access to formal sources of credit.

Key Terms

Commercialisation	Marketing boards	Privatisation
Economic efficiency	Monetary policy	Stabilisation
Exchange rate policy	NGOs	Strategic Food Reserve
Fiscal policy	Parastatals	Structural adjustment

Review Questions

From your recall of the material presented in this chapter, give brief answers to the following questions:

1. What are the fundamental distinctions between structural adjustment and stabilisation programmes?
2. What would be the purposes of any regulatory framework designed to support market liberalisation measures?
3. List the main obstacles to the entry of the private sector into deregulated agricultural marketing systems.
4. What are the alternative ways in which a marketing parastatal might be restructured?
5. Distinguish between commercialisation and privatisation.
6. What are the alternatives to the full privatisation of agricultural marketing parastatal?
7. Name the 3 policy instruments used in IMF sponsored economic stabilisation programmes?
8. Briefly outline the main issues to be addressed before privatising or commercialising an agricultural marketing parastatal.
9. Why is the new wholesale market in Dodoma under-utilised?
10. Specify 3 major objectives of Economic Structural Adjustment programmes.

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Chapter 3

Marketing Strategy, Planning And Control

In the opening chapter of this textbook emphasis was placed on the need for enterprises to adopt the marketing concept and a marketing orientation. Where this is done there is also a need to develop marketing orientated strategy. It is not enough to install marketing management within an organisation with middle managers overseeing functions such as product/brand management, advertising, distribution and marketing research. Marketing should not be implemented only at the functional level. Rather, the business as a whole has to be directed by a strategy whose focus is the marketplace. In formulating such strategies, there has to be a careful matching of market opportunities with organisational resources; this is the task of strategic marketing planning. Thus the subject matter of this chapter is strategy and planning coupled with the controls that need to be in place if strategies and plans are to be prevented from going astray.

Chapter Objectives

The objectives of this chapter are to enable the reader to:

- Clearly differentiate between corporate planning, business policy and marketing planning
- Describe the process of strategic marketing planning
- Become familiar with the content of a marketing plan
- Understand the different types of marketing control
- Appreciate that the control process is essential for evaluating the marketing plan and for the optimisation of resources
- Make use of some of the principal techniques used in identifying weaknesses in the performance of the marketing plan.

Structure Of The Chapter

Following a brief clarification of the key terms in marketing planning and control, the process of strategic marketing planning is explored. The reader is then given an overview of the content of a marketing plan. The discussion subsequently moves on to the topics of monitoring and control. A detailed explanation is given of selected analytical techniques, including sales and profitability analysis. A brief consideration of the principal areas of marketing which can yield improvements in efficiency concludes the chapter.

Strategy, policy and planning

Given that this is an introductory text, and as such is likely to be read by people with little or no previous knowledge of the subject matter, it would seem appropriate to begin this chapter with an explanation of terms whose meaning may not be immediately clear or are easily confused with one another. Those who are new to the subject are unlikely to have a clear understanding of terms like 'corporate strategy', 'business policy' or 'market planning' and the differences between

them, where these exist.

Corporate strategy

An organisation's corporate strategy is reflected in the statement of its overall objectives and the means by which these are to be met. Corporate strategy is usually stated in such a way as to convey the reason for its existence, i.e. its mission and the business it is in or wishes to be in.

Whilst corporate strategy and marketing strategy are not one and the same. Baker¹ argues that:

“...the firm's selection of a marketing strategy will influence and affect everything which it does - to this extent then marketing strategy and corporate strategy are inextricably interlinked.”

Whilst this textbook continually stresses the central importance of marketing and indeed promotes the idea that every aspect of an enterprise ought to be market driven, effective marketing is a necessary but not sufficient condition for business success. In market driven organisations marketing will be allowed to influence other functional areas like R & D, production, finance and personnel these will each have individual, if concerted, strategies and collectively fall into the realm of corporate strategy.

Business policy

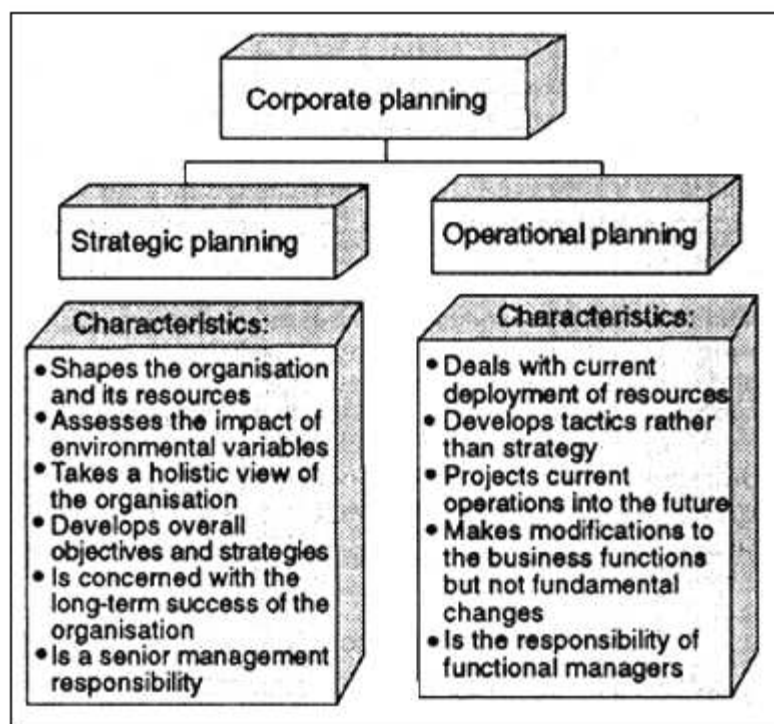
Policies are bodies of rules established to guide managers in their decision making. In essence, a policy prescribes the boundaries of the alternative courses of action which the organisation leaves open to him/her within a defined set of circumstances. Thus, for example, a manager whose soft fruit is losing sales in export markets because competitors are offering extended credit to importers may be constrained in his/her actions by company policy with respect to credit. That policy may be paraphrased as, “We will never be placed at a disadvantage by offering terms and conditions of sale that customers perceive to be inferior to those offered by competitors.” In other words, the manager will know that he/she has to at least match or if possible better the terms and conditions offered by competitors. How the manager does this is a matter for him/her to decide. (The manager will not necessarily follow suit and offer similar terms to those of competitors but may look instead for ways of increasing the value of doing business with his/her organisation in other ways such as greater flexibility in minimum consignment sizes, faster delivery or improved protective packaging but the option of competing on the basis of credit terms is open to). Alternatively company policy might be embodied in a statement like, “Never to buy custom through direct financial incentives.” Here the company may be taking the view that sacrificing part of the marketing margin to gain market share does not help it reach its stated goals and is incompatible with its corporate strategy. In this case, the manager knows immediately that company policy prohibits the use of financial incentives and he/she must seek to regain lost sales in some other way.

Marketing planning

Basically planning involves setting objectives, designing and implementing a programme to achieve the organisation's objectives and having a monitoring and control mechanism to ascertain whether the planned programme is on track or has achieved its desired objectives.

Greenley² differentiates between corporate planning, strategic planning and operational planning. He says that corporate planning is the organisation's overall planning system and its two principal constituent parts are strategic and operational planning. Strategic planning begins with an assessment of an organisation's internal and external environments.

Figure 3.1 The characteristics of marketing and operational planning



Operational planning can be further divided into short and long term planning. Short term operational planning is also known as tactical planning. Tactics and strategy differ in several important respects. Tactics relate to the following of a plan to achieve short term objectives. Thus tactics equate to the marketing plan rather than marketing strategy. Strategic marketing would establish policies for each element of the marketing mix and would specify how resources are to be deployed. Tactics deal with marketing problems in the short term. Consider the position of a fish supplier who has the competitive advantage of owning refrigerated trucks. The supplier might adopt a marketing strategy in which the price is set high in order to: recover his/her investment in expensive technology; establish a price-quality relationship in the mind of the consumer; and ensure that the level of demand does not greatly exceed the amount he/she is able to supply. Since this is his/her strategy, there would be no departure from the maintenance of prices which are high relative to those of other suppliers. However, there may be tactical manoeuvring in order to overcome certain marketing problems. When the supplier, or the product, is new to the market there may be need to stimulate demand by offering discounts. This would probably be done through the use of special 'money-off' coupons, or vouchers, so that the discounts could be targeted at certain customer groups and also to underline the fact that discount prices will not be the normal practice with respect to the product and are for a limited time only. Similarly, when there is a glut of fish on the market or when the supplier wants to improve short term cash flow or release space in his/her storage facility to accommodate new product lines, the tactic of offering '20% extra free' in a bag of white-bait or kapenta fish might be employed. Once again the supplier would be careful to communicate to the market that these extra value packs would be available in the short term only. Thus, whereas marketing strategy focuses upon achieving long term organisational goals, tactics focus upon achieving annual marketing objectives.

Before moving on, it should be said that corporate strategy, business policy and marketing planning have relevance to enterprises of all sizes. In smaller organisations these management activities are likely to be carried out in a less formal and less sophisticated way than in larger corporations but they need to be done, formally or informally, explicitly or implicitly. Even the small independent grain trader will have to give thought to such matters as his/her strategy for survival in a municipal market overcrowded with grain traders, will have to be consistent whilst remaining flexible - in his/her reactions to problems and opportunities and needs to be in a position to anticipate changes in the marketing environment so that he/she can identify and exploit emerging opportunities.

Strategic business units

When businesses are small and owner operated there tends to be a high degree of entrepreneurial drive. Even after the organisation begins to grow, and salaried managers are employed, there may be no appreciable fall in the level of flair, energy and commitment to achieving success, if indeed there is any at all. However, in very large organisations managers can feel divorced from the events and decisions that are shaping the business. This is particularly the case where the enterprise is highly diversified. For example, a large enterprise could have interests in say grain trading, fertilizer procurement, the design and installation of silos, financial advisory services to farmers, the hire of transportation of bulk commodities, etc. A manager in fertilizer procurement could well feel that he/she has relatively little effect on overall performance since decisions such as budget allocations and sales and profit targets are dictated and determined by what happens in grain related activities. This is likely to suppress that manager's search for new and better ways of doing business because he/she believes to do so would have relatively little effect and would not be recognised, or rewarded, by senior management. The concept of a strategic business unit (SBU) was developed as a means of retaining the vitality of the entrepreneurial spirit by giving management a high degree of responsibility and autonomy in decision making. The SBU becomes a separate business entity, although still belonging to a larger commercial enterprise, having its own defined business strategy and a management with direct responsibility for its profits and sales performance.

SBUs can be based around individual brands but it is more common for a large corporation to break down its business according to either product categories (e.g. fertilizers, grain trading and farm buildings) or markets served (e.g. agriculture, distribution and construction and design).

Aaker³ advises that:

“When strategies and competitors have a high degree of commonalty across businesses, it makes sense to combine those businesses into a single SBU. When they differ in meaningful ways, however, it will probably be more useful to use separate SBUs.”

The size of a business is also a consideration when deciding on how to structure the organisation. Even when an organisation's businesses have similar strategies and needs managers can feel impotent if it is a very large enterprise and it may be best to create two or more SBUs to maximise motivation and the application of initiative, and therefore corporate performance. To do so can change the way a manager thinks about his/her own mission. For instance, the manager of the transport department within a large grain trading organisation is likely to focus his/her attention upon controlling distribution costs and maximising the efficiency with which the transport function is operated. As the manager of an independent SBU the manager may begin to see his/her task more in terms of maximising the return on investment in transportation. This requires him/her to redefine the business his/her division is in (as opposed to thinking in terms of what business the grain trading division is in). New opportunities may become apparent such as the hiring out of underutilised vehicles, storage capacity and equipment; offering advisory services in logistics, stock control management, fumigation procedures etc.; and so on. The manager thus becomes less myopic in his/her view of the mission of the business.

The degree of autonomy and independence of an SBU varies enormously. Much depends upon whether the SBU has its own dedicated operations such as R & D, design, production, distribution and accounting. Often, the economics of business operations dictate that SBUs share some of these facilities but this will almost undoubtedly reduce the individual manager's sense of responsibility and control.

The need for marketing planning

Strategic planning began as a response to the inadequacy of assuming that the future will look very much like the past. It is dangerous for a business to extrapolate in economies and markets that are developing and changing. In his classic article “Marketing Myopia”, Levitt⁴ gives several memorable examples of successful businesses that subsequently went into decline because their actions were based upon the implicit assumption that the *status quo* would be maintained. By way of example, Levitt cites the case of the dry cleaning industry which failed to see that in the future the main threat to their business would come not from continually improved chemical

cleaners but from the development of stain resistant synthetic materials. In a similar vein the American railroad companies perceived one another to be competitors but did not anticipate how transporters over road, sea and air would develop their passenger and freight handling facilities to a degree that railroads became uncompetitive. Aaker⁴ explains that strategic planning encourages enterprises to abandon the notion that past extrapolations can be relied upon as a basis for future actions. Rather, they should assume that there will be discontinuities between the past and the future.

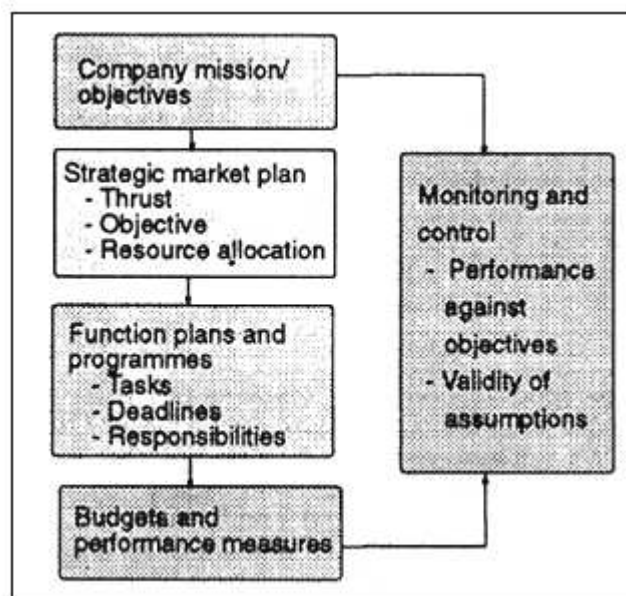
Strategic planning is also known as strategic market planning when its focus is upon the market environment within which the enterprise must operate. This reflects the fact that what an enterprise plans to do now, in order to prepare for future developments in the market, should be based upon a detailed understanding of that market and not on mechanistic projections of past and present patterns. Strategic market planning enables organisations to anticipate events rather than merely react to them. Aaker³ itemises the following benefits of strategic market planning:

- It focuses management's attention on external events, especially those representing threats and/or opportunities. All too often companies tend to be inward looking when, in reality, customers and competitors are external to the firm and profits are made outside not inside the organisation.
- It locks management into taking a long term perspective when the pressures are to adopt a short term focus with grave dangers of making strategic errors. The natural tendency is for managers to devote their time to dealing with the problems and opportunities of today, to the exclusion of consideration of the longer term. Strategic market management usually has a well defined time-cycle when managers have to submit short, medium and long term plans. Such cycles instill a discipline that forces managers to devote a minimum amount of time giving thought to future developments.
- It changes the basis on which resource allocation decisions are made. Resource allocations are frequently dictated by financial professionals who understand accounting conventions and terminology and this is often employed to the disadvantage of managers less well informed on these matters. In other cases, resource allocations are made according to the 'political' strength of a group, department or individual manager rather than on commercial merit. Strategic planning seeks to match resources to opportunities (and/or threats).
- It provides a strategic management control system. Monitoring and control are an integral part of strategic management. This enables management to deal with problems as these emerge rather than allowing problems to become crises. These aspects of strategic management are discussed later in this chapter.
- It provides a vertical and horizontal communication and coordination system. Strategic market management is a vehicle for communicating problems and proposed strategies with precision due to its vocabulary and explicit expression of expectations of the future.
- It helps enterprises operating in rapidly changing and unpredictable environments to cope.

Thus, strategic market management is proactive in that it prepares managers not merely to expect change but to anticipate it. Moreover it serves as an instrument for making management more externally orientated and less insular. Strategic market management also focuses management attention on the longer term and counters the natural tendency for management time to be totally absorbed by today's problems and opportunities.

The process of marketing planning

As was said earlier, planning involves setting objectives, designing and implementing a programme to achieve the objectives and developing a system for monitoring and controlling the execution of the plan. This process involves analysis, planning, implementation and control. The process of marketing planning is illustrated in figure 3.2.

Figure 3.2 The marketing planning process

The activities described in figure 3.2 can be categorised as diagnosis, planning and action. These three activities, once started within an organisation, never stop. SWOT analysis constitutes the diagnosis stage, the objectives and strategies stages are the planning activities and the action plan and monitoring, evaluation and control stages are the action part of the plan.

Plans can be categorised according to time span and complexity. Strategic marketing plans which are intended to guide management through the environment in the long term are generally complex and have a 2–3 year time horizon. Annual marketing plans (i.e. operational marketing plans) which focus upon specific target marketing objectives of the marketing mix - product, price, promotion, place and people have a one year time horizon. Tactical plans (i.e. short term operational marketing plans) which are “reaction” plans to, say, changes in a competitor's price, have a one to three month duration and are intended to bring the organisation “in tune” or to “react” to a potential disadvantage.

Depending on the agricultural organisation type, plans may vary in terms of their sophistication. A small scale farmer may leave planning to others, for example, to an extension officer who is advising him/her with respect to what and when to plant, or he may react to pre-planning price announcements. His planning may be non-existent or very rudimentary. More sophisticated large scale farmers may have elaborate budgeting procedures, crop rotation patterns and crop production plans. Food processing organisations which deal with many suppliers, products and customers may have a whole range of tactical, annual and strategic plans. Government, which plans the economy, may enlist all types of planning devices.

A whole variety of plan types can be identified including:

Corporate plans	An overall master plan for the organisation and its divisions setting out what business(es) it intends to be in over a given time horizon.
Divisional plans	Plans for each division of an organisation showing how it intends to carry out the corporate plan and make its contribution to it.
Product line plans	Plans for a series of products within a product range, for example plans to increase a range of canned fruits.
Product plans	Plans for individual products within a range. The decision may be to delete, expand or develop the product.
Brand plans	Plans for an individual brand, for example market repositioning, repackage or deletion of brand.
Product/market plans	Plans which spell out what the organisation plans do in each product/market it services.

Functional plans Plans for advertising, selling and market research departments. It involves decisions on budgets, resources and functions.

Contents of the marketing plan

The following describes the contents of the marketing plan which includes the executive summary, corporate purpose, situation analysis (SWOT), objectives, strategies, action plan, monitoring evaluation and control and the marketing intelligence system.

Executive summary

The planning document should start with a short summary of the main goals and recommendations to be found in the main body of the plan. A summary permits management to quickly grasp the major directions of the plan.

Corporate purpose

There are two elements to the corporate purpose, one is to prepare the organisation's basic mission statement, the other specifies the basic management goals.

Basic mission

This answers the question what business is the enterprise in and what business *should* the enterprise be in? Periodically the basic mission of an organisation has to be reconsidered since the environment of enterprises is constantly changing. For example, in the wake of market liberalisation many marketing parastatals are being forced to revise their mission statements. Those that formerly had exclusive rights to market staple foods such as grains, and under market liberalisation have had this exclusive function taken away from them, are wrestling with the question of what their role should be now. They may have alternative roles which they could assume such as becoming the buyer and seller of last resort, or becoming an instrument of development whereby the parastatal acts as the marketing agent of small scale farmers and with their storage and transport resources close the competitive gap between smallholders and the large farms and plantations. Then again, the marketing parastatal may be commercialised, or even privatised, in order to increase the level of competition when new grain suppliers enter the market. Whatever role is chosen, it should be expressed within the organisation's mission statement.

Another reason for reviewing an organisation's mission from time to time is that larger enterprises can find themselves gravitating away from their core business. The process can be imperceptible. Investments can be made here and there, none of which amounts to a substantial drain on corporate resources but collectively they can sap those resources and divert the organisation from its core business and core customers. This was experienced by the multinational mining company Rio Tinto. The company's core business was the extraction of precious metals but over time it diversified its portfolio and became involved in many other types of business. Some of these were fairly closely related to mining but others had little or no connection. One sector in which Rio Tinto became involved was agricultural equipment and services. These agricultural businesses ranged from the construction and assembly of equipment to the operation of a forge and the provision of an irrigation systems design service. The management of mines and mining has little in common with the management of agricultural manufacturing businesses. The methods of operation are quite different, the resources required are on quite different scales, as are the returns on investment, and the strategies that are applied in one sector have no relevance to the other. Eventually, Rio Tinto did what many large organisations have done before it and returned to its core business by divesting itself of these other investments. By doing so, Rio Tinto released resources which it could then channel back into the core business.

It should not be concluded that only large organisations become confused over the question of what business they are in. Some businesses never consider the question of what business they are to operate in at the outset. Foba Engineering, based in Kaduna, Nigeria, is typical of many small companies in that it makes a range of unrelated products. For instance, Foba fabricates both grain milling equipment and trunking for street lighting. It could be said that Foba's business

centres around maximising the throughput of its fabrication facilities and for as long as the firm can find jobbing work, but Foba finds it difficult to develop expertise in the production of any of the items it manufactures. More importantly, since it operates in diverse markets Foba has neither the facility to properly study the needs of each of those markets nor can they anticipate future developments since they do not have the resources to monitor trends in all of those markets. Moreover Foba, like so many enterprises, suffers from what is termed in the marketing literature as a 'technological fix'. This occurs when an enterprise defines its business in terms of its current production technology rather than according to the needs which it seeks to serve. In Foba's case they are vulnerable to competition from businesses that manufacture milling equipment by casting, machine turning and even plastic moulding.

The strategic marketing audit

By constantly monitoring and reviewing the organisation's strengths, weaknesses, threats and opportunities (SWOT). This is an extremely important part of the Marketing Plan. The purpose of a situation analysis is to investigate the company's own strengths and weaknesses (internal analysis) and discover the threats and opportunities in the environment (external analysis) so it can avoid the threats and take advantage of the opportunities. Threats have to be analysed to see if they are "negative" or "neutral" threats. Threats may be insignificant.

The situation analysis helps identify the answer to four basic questions: where is the organisation now? How did it get there? What conditions is it heading into? What strategy should it adopt for the future?

Figure 3.3 SWOT analysis

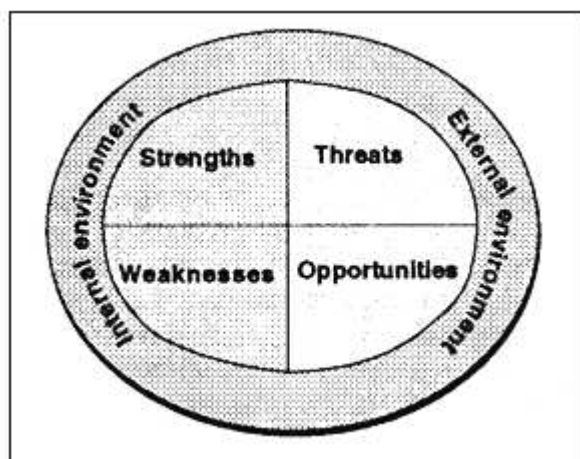
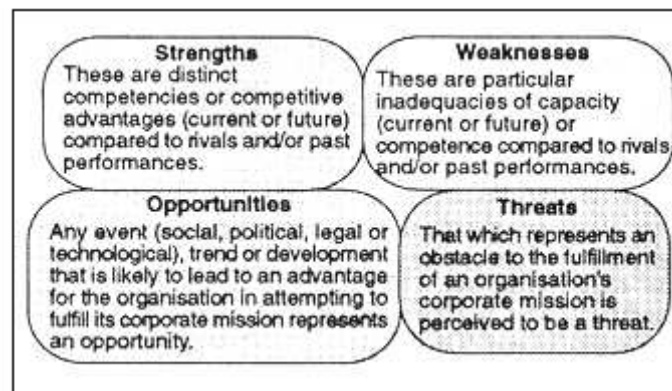


Figure 3.3 reveals that strengths and weaknesses arise from within the organisation and therefore are in large measure controllable. Threats and opportunities, however, have their origins in the external environment and are, for the most part, outside the direct control of the organisation. Nonetheless, an organisation that is carefully monitoring changes in the external environment is in a position to anticipate events (i.e. to act before the event takes place).

Techniques such as portfolio analysis, which was discussed in chapter 2 and product life cycle, explained in chapter 4, can be used in concert with SWOT analysis to assess an organisation's current situation and establish a basis for developing a strategy for the future. Figure 3.4 suggests some of the questions that might be used in assessing strengths, weaknesses, opportunities and threats. The meanings of these elements of SWOT analysis are:

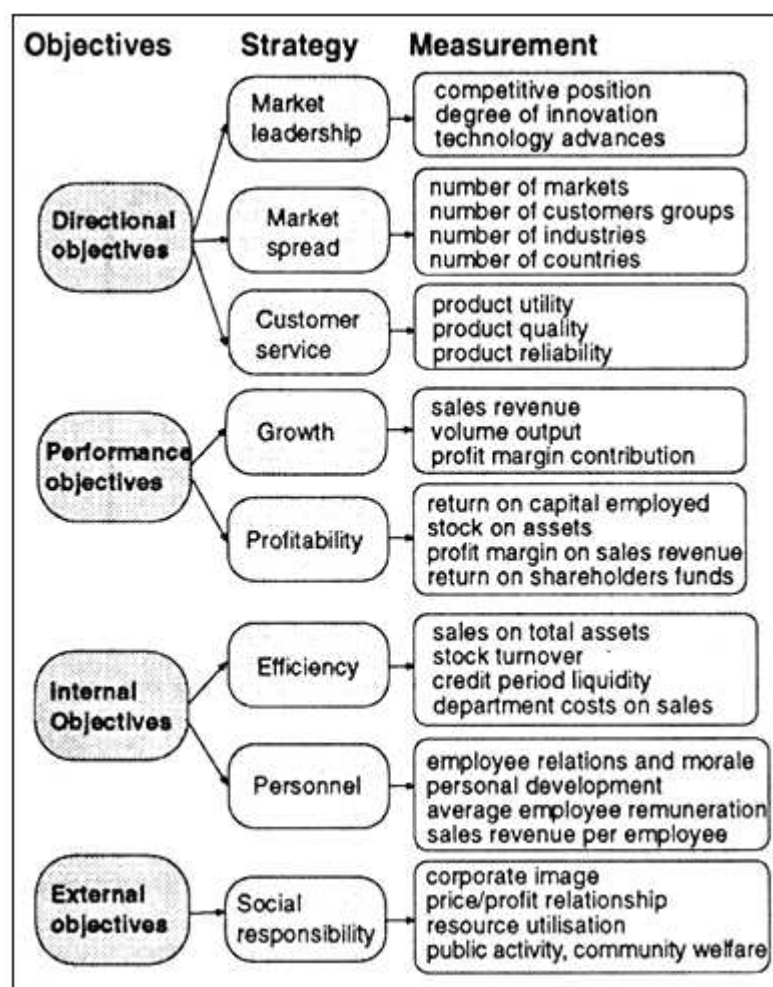
Figure 3.4 Indicators of strengths, weaknesses, opportunities and threats



Objectives

Having discovered the issues with which it is faced, management must then make some decisions about objectives which will then guide the subsequent search for promotional strategies and action programmes. Objectives should be quantifiable, measurable, achievable, communicable and consistent. Objectives may be stated in economic or subjective terms. Greenley has carried out a comprehensive study of the range of objectives which organisations pursue, and drawing upon the work of such as Ansoff⁵, Hofer⁶, Pearce and Robinson⁷ and Thompson and Strickland⁸ has summarised these objectives and the way in which they tend to be measured. The results of Greenley's work is shown in figure 3.5.

Figure 3.5 Organisational objectives and their measurement



It will be noted that organisations pursue non-economic as well as economic goals. Those goals which do not relate to profitability, such as employee relations and those related to social responsibility, are social rather than economic objectives.

Economic objectives have to be translated into marketing goals. For example if a company wants to earn \$1.8m, profit, that is, its target profit margin is over 10 percent on sales, then it must set a goal of \$18m in turnover. Further if the company sets an average price of \$26, then it must sell 692,300 units. If the company only has a 7 percent market share, then it would be expecting the total industry sales to top 23 million units. The company has to set certain targets for consumer awareness, distribution coverage and so on, if it expects to maintain or improve its 3 percent market share. Hence the overall marketing objectives might include the target of doubling consumer awareness of the brand being sold and raising the number of distribution outlets by about 10 percent over and above the other stated targets.

Case 3.1 Sime Darby Of Malaysia Goes Downstream

Sime Darby is a large Malaysian agribusiness firm that built its considerable fortunes on the export of rubber, and later crude palm oil. Sime Darby's experience was in commodity trading but the company recognised that it needed to get into 'value added' businesses. Competition in commodity centres around. Moreover, the prices of commodities tend to be highly volatile being subject to the simple laws of supply and demand. The further 'downstream' of production an enterprise is able to operate the greater the opportunities for adding value to products and for differentiating products from those of competitors. It was for these reasons that Sime Darby began to actively pursue ways of reducing its dependence upon its traditional products and diversifying into processing and manufacturing.

It is to be remembered that at the point when Sime Darby began to depart from its traditional commodity businesses it was not in crisis but was enjoying record sales and profits in those businesses. However, senior management was conscious that its continued growth and expansion would come only to a limited extent from its trading activities. At the same time, the corporation was aware that its technical capabilities were more of a weakness than a strength. Therefore, Sime Darby adopted a strategy of forming joint ventures and strategic alliances with foreign companies with greater technical expertise. Its partners include Ford, Caterpillar BMW.

Today Sime Darby employs over 21,000 people, enjoys pre-tax profits in excess of US\$120 million and achieves a 14 percent return on shareholder's equity. The company operates such diverse businesses as plantations and estates, agricultural equipment distribution, commodities trading and related businesses in finance and insurance. These activities are organised into six divisions or strategic business units.

Sime Derby's core business is still in agriculture. Over fifty percent of corporate profits come from products grown on its plantations. Now, however, the company is deeply involved

'downstream' of production. Edible Oil Products (EPL), a vegetable oil refinery located in Singapore was Sime Derby's first acquisition. EPL processes cooking oil from palm, soya, corn and other crops. EPL's products are marketed to consumers in Africa, Asia, North America and Japan. Since Sime Darby has bought food processing businesses in various Asian countries as well as Australia, and its diversification continues.

Thus Sime Darby made the transition from a Malaysian commodity trader, heavily dependent upon two crops - rubber and palm - to an international manufacturing and trading conglomerate. It did so by recognising its strengths in marketing and trading and its weaknesses in the technical aspects of food processing. The corporation also recognised its opportunities as a cash rich business and one that was well situated to give foreign partners an entry into Malaysia, where majority foreign ownership was not permitted. Lastly, Sime Darby foresaw the threat of remaining dependent on commodities where prices and profits were volatile and moved into value added products.⁹

Objectives are usually set in a hierarchical way. Figure 3.6 provides an illustrative example of this hierarchy for a hypothetical fertilizer company. Each objective can be achieved in a number of ways and so the marketing manager is faced with making choices.

Strategic objective: A strategic objective is a choice and a statement of priority for the enterprise. Objectives are drawn up from an analysis of the strategic focus.

Figure 3.6 Hierarchy of objectives for Bora Bora fertilizers



Strategic focus

There are many ways to achieve strategic objectives and, indeed, the focus may change over time. A grower of oranges may begin by needing to achieve volume if he/she is to be able to completely fill a container and ship economic loads. Later, the organisation's focus may switch to cost reduction as the market becomes more competitive and margins are being squeezed. The basic strategic options are outlined in figure 3.7.

Figure 3.7 Basic strategic options

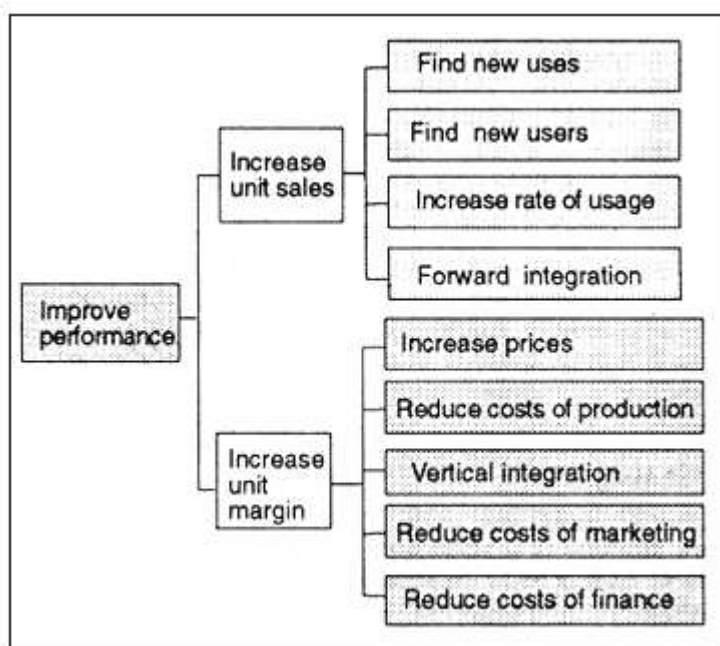


Figure 3.7 suggests that there are two main ways of achieving improved performance, i.e. volume or productivity strategies. Basically the choice is to increase volume or reduce costs; ideally these should be pursued simultaneously. For example, if the objective is to increase sales revenue by 10 percent such an objective can be achieved by either increasing the average price on all units, or by increasing the overall sales volume and/or by selling more of the higher-priced units. Each of these strategies can be achieved by increasing market growth and/or market share. In developing the strategy, the basic marketing tools can be identified: target markets, position in the market, product line, price, sales force, etc.

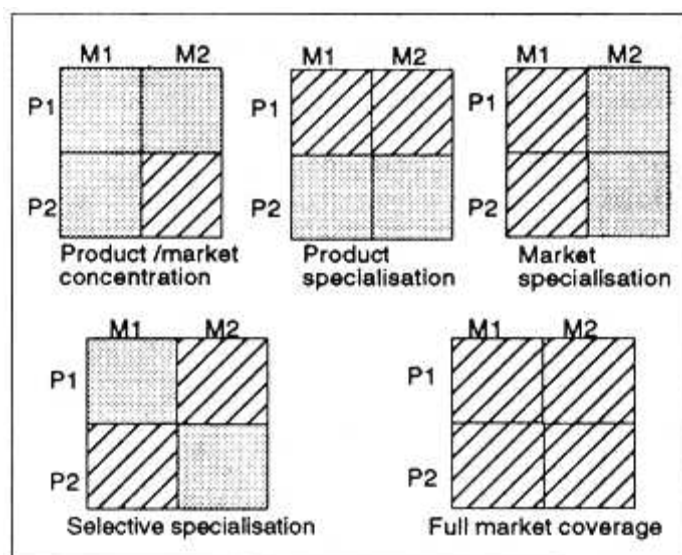
Customer targets

Market segments are based on product or customer characteristics. Typical product characteristics are different sizes, prices and colours whereas customer characteristics may be age, sex, income, social class, geographical location or personality. The choice of a target market and the marketing of a product can lead to a number of product/market coverage strategies, as illustrated in figure 3.7.

Examples of each are:

Product/market concentration	Growers in Ivory Coast specialising in banana production which is then exclusively sold into French wholesale markets.
Product specialisation	In China vegetable traders do not handle other products, not even fruit. The reverse is also true: Chinese fruit traders do not handle vegetables.
Market specialisation	Lesotho's production of canned white asparagus sold at premium prices into specialist food stores whose customers are in the higher income categories, in high income countries such as Belgium and Germany.
Selective specialisation	Colombian flower producers grow long stemmed carnations for the North American market and short stemmed carnations for the European market.
Full market coverage	John Deere manufactures a full line of agricultural equipment and seeks to market it, either directly or through agents, in every country in the world that has an agricultural industry.

Figure 3.8 Market coverage strategies



Core strategy

The core strategy is a statement of what an organisation is offering to create a preference for its products and services in the marketplace. Through a careful examination of the customer and his/her needs and wants, the organisation can determine what is required to create a differential advantage.

The marketing mix

The marketing mix is a concept first introduced by McCarthy¹⁰ and comprises the product, price, place (distribution) and promotion decisions and is often called the “4 P’s”. The mix is the right combination of marketing activities to ensure customer satisfaction. Each element of the marketing mix has a chapter of this textbook devoted to its exposition and therefore they are discussed only briefly here.

Product: The product offering can be manipulated to create different market effects at three levels: the core product, the tangible product and the augmented product. At its core, a product is not a physical entity but the benefits that it offers customers. Those benefits may be physical or psychological in nature. The consumption of imported foods, in a developing country, sometimes has as much to do with the status of being seen to buy sophisticated, and perhaps expensive, products as it has with any superior physical qualities compared to domestic equivalents. The tangible product refers to its features, quality, styling, packaging, branding and labelling. A third level is that of the augmented product, that is, additional service elements which are attached to the product. Examples include after-sales service, extended guarantees, credit facilities, technical advice and product trials.

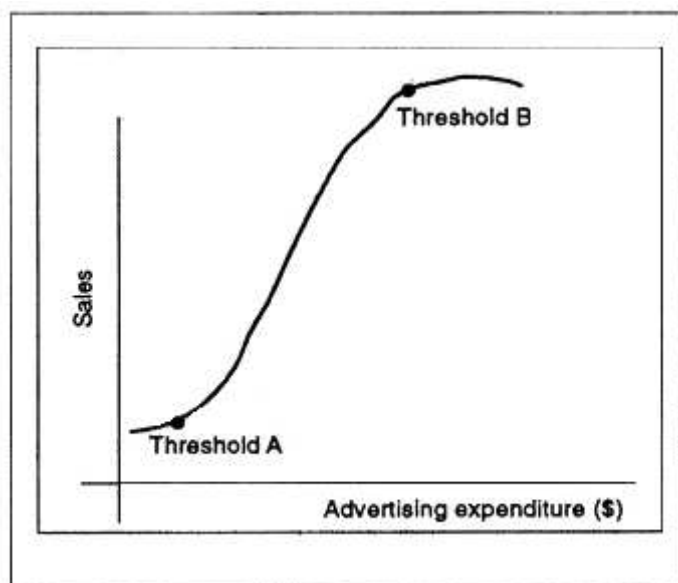
Price: Prices should be set in relation to specific pricing objectives. Pricing decisions include payments, terms, discounts, contract and pricing structures. Non-price competition may come through packaging, labelling and advertising. Prices have to reflect the costs of production and marketing and target profit margins. A variety of approaches may be taken to pricing including cost based, demand based, competitor based and market based.

Promotion: Promotion includes advertising, public relations, selling, exhibitions, brochures, data sheets and free gifts. Possibly the most important decision about promotion is the message to be communicated. The message(s) has to differentiate the products and/or its supplier. To this end, an organisation will seek to convey a unique selling proposition (USP), that is, to find some aspect of the product, service or organisation which others cannot, or simply do not, promote to customers and which is perceived to be important or attractive to those consumers.

Advertising is a form of communication which a sponsor pays to have transmitted via mass media such as television, radio, cinema screens, newspapers, magazines and/or direct mail. It is intended to both inform and persuade. Whereas, promotion tends to be short term in its effects,

advertising tends to take time to have any effect, but then its effects, when they come, can be lasting. Whilst no one has firmly established exactly how advertising works, it is generally thought to conform to the sales- expenditure pattern depicted in figure 3.9.

Figure 3.9 A theoretical advertising response curve



This S-shaped curve suggests that over a range of low level expenditures there is little response in terms of increased sales. This is perhaps because the intensity of advertising that such expenditures would buy is below a threshold where most of the target audience would become aware of the product or service. Once that threshold is crossed there is a dramatic response to increasing levels of advertising expenditure. Eventually though, the target market is saturated and whilst advertising expenditures continue to increase the market response plateaus. Put another way, the enterprise reaches a point where for every dollar spent on advertising the sales returns are below \$1.00, i.e. the law of diminishing returns applies. The challenge to strategic planners is to work out the range of advertising expenditures that will prove the above threshold A but below threshold B.

Place: Produce distribution elements include physical distribution like storage handling, transportation and warehousing, both on and off farm, and functional distribution e.g. wholesaling and retailing. The decision as to which distribution channel the organisation should seek to use falls into the realm of strategic marketing but actions within the chosen channels are operational in nature. Growers, processors and manufacturers have to market their products to, and not through, channel members. To the extent that channel members see themselves as anyone's agent, they are more likely to see themselves as agents of their customers rather than agents of product suppliers.

Action plan

Implementing a marketing programme involves deciding on long, medium and short term activities for all marketing functions. Decisions have to be made on budgets, staffing levels, how to communicate the elements of the plan, coordination of activities and motivating people to carry out the plan. All of this has to ensure marketing efficiency. Whilst too much planning can stifle flexibility and creativity, no planning is a recipe for disaster. It leads to ill conceived product and marketing strategies, enhancing the possibility of waste and inefficiency in a vital industry: the production and marketing of food.

Monitoring, evaluating and controlling the marketing planning

It is the task of management to ensure that the marketing plan is carefully monitored, evaluated and controlled. Indeed authors such as Mockler¹¹ see no distinction between planning and control but view them instead as steps within the same cycle. Typical controls involve setting standards

of performance, evaluating actual performance against standards and, if the deviations are intolerable, taking corrective action. Marketing planning can be seen as a cycle, which begins with clear objectives that set out what the marketer intends to achieve, and ending with a feedback mechanism in order that the objectives can be evaluated, a course of corrective action can be taken (if there are deviations from plans) and the organisation can monitor its usage of resources.

Figure 3.10 The planning execution and control cycle



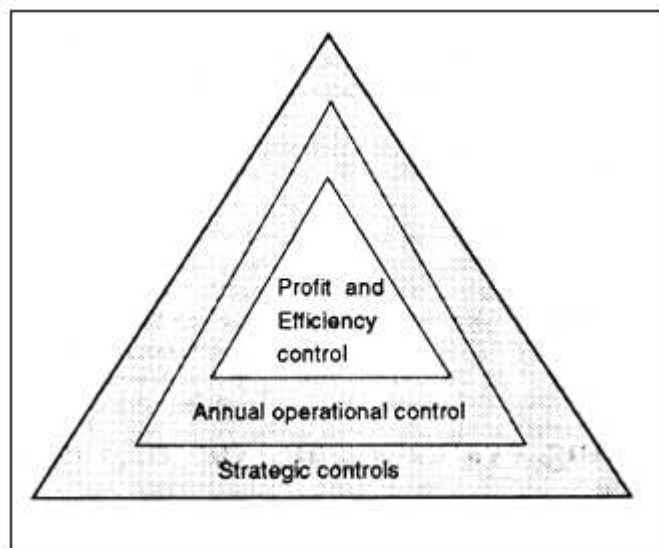
Clearly any system of monitoring and control has to be implemented in accordance with organisational structure. That is, if there are SBUs, divisions or other business units that have a degree of autonomy and responsibility for the development of strategy and plans, then these must have their own systems of monitoring and control in place.¹²

Marketing controls

Marketing control involves setting a desired standard, measuring deviations from the standard and taking the appropriate action. In many cases the standard is expressed in terms of budgets and any substantial deviation from budget is investigated. Both positive as well as negative deviations can be a cause for concern. If sales are far in excess of planned levels then this can over-stretch the enterprise's production, storage and distribution resources, for example. At the same time, the investigation of all deviations from budgeted levels would prove an unbearable load on managers. Instead, since not all deviations are significant, parameters are set for "allowable" deviations and only those exceeding these parameters are investigated. There are four types of marketing control: the annual plan control, profitability control, efficiency control and strategic control. Table 3.1 shows the level of management which has responsibility for each of the types of control.¹³

The different types of controls can be seen as a complementary and interlocking set of activities, as depicted in figure 3.10.

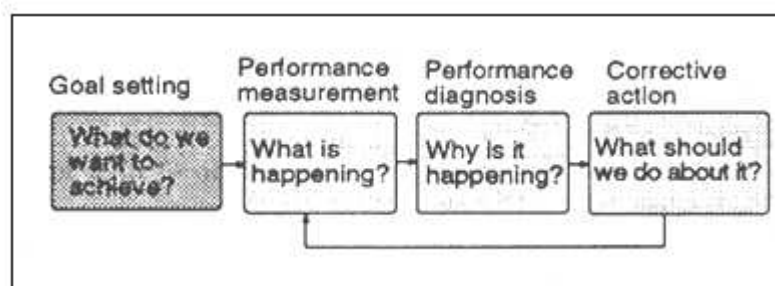
Figure 3.11 The different levels of marketing controls

**Table 3.1 Types of marketing control**

Type of Control	Prime Responsibility	Purpose of Control	Approaches
Annual plan control	Top management Middle management	To examine whether the results are being achieved	Sales analysis Market-share analysis Sales-to-expense ratios Financial analysis Attitude tracking
Profitability control	Marketing controller	To examine where the company is making and losing money	Profitability by product territory Customer group trade Channel order size
Efficiency control	Line and staff management Marketing controller	To evaluate and improve the spending efficiency and impact of marketing expenditures	Efficiency of sales force Advertising sales promotion distribution
Strategic control	Top management Marketing auditor	To examine whether the company is pursuing its best opportunities with respect to markets, products, and channels	Marketing effectiveness rating instrument Marketing audit

Marketing plan control

The purpose of the annual plan control is to ensure that the company achieves the sales, profits and other goals established by the marketing plan. It is, therefore, an operational control plan. This type of control applies to all levels of the organisation and the process.

Figure 3.12 The annual plan control process

Several measures may be taken in assessing performance in relation to the marketing plan, including sales analysis, market share analysis, marketing expenses to sales ratios, attitude

tracking, profitability and efficiency. Each of these will be briefly discussed.

Sales analysis

Actual sales can be compared to sales targets and budgets and an analysis of any variance between the two would be carefully examined. Sales analysis centres interest upon the relative contribution of different factors to a gap in sales performance. Say, for example, that the managing director of the National Canning Company is told by the marketing manager that sales are up half a million units on the target and that revenues are five percent above budget, this would be cause for celebration. Or would it? Before answering this question the managing director would wish to look at these figures a little more analytically. The operating results might look those presented in table 3.2.

Table 3.2 Operating results for a canned product

Canned Produce	Planned	Actual	Variance
Sales (units)	5,000,000	5,500,000	+ 500,000
Price per unit (\$)	3.50	3.40	- 0.10
Total revenues (\$)	17,500,000	18,700,000	+ 1,200,000
Total market (units)	10,000,000	12,000,000	+ 2,000,000
Share of market	50%	46%	- 4%
Variable costs @ \$ 2.5 per unit	12,500,000	13,750,000	+ 1,250,000
Profit contribution (\$)	5,000,000	4,950,000	- 50,000

It can readily be seen that, although sales have exceeded expectations, the planned price was not achieved and so the product made a lower contribution than expected. In this case the price mechanism would need investigating as would the estimates of market share. Whilst the Canning Company recorded an increase in sales of ten percent, the market as a whole was twenty percent above target. Seen in this light, there is more cause for concern than for celebration.

This approach to sales analysis can be extended to specific products, market segments and/or sales areas, etc. to evaluate the profit contributions of each and to identify those that were poor performers. From there consideration can be given to the underlying reason for that performance.

Market share analysis

Market share analysis shows how well the organisation is doing vis-a-vis competitors. The first step is to determine market share, either by absolute measures (overall market share) or relative to main competition (relative share), or to leading competitor (relative to market leader share). The second step is to analyse market share movements in terms of the following:

$$\text{Total market share} = \text{Customer penetration} \times \text{Customer loyalty} \times \text{Customer selectivity} \times \text{Price selectivity}$$

$$\text{share} \quad \quad \quad \text{(CP)} \quad \quad \quad \text{(CL)} \quad \quad \quad \text{(CS)} \quad \quad \quad \text{(PS)}$$

where:

CP = Percentage of all customers who buy from the company.

CL = Purchases of this company by its customers expressed as a percentage of their total purchase from all suppliers of the same product.

CS = Size of the average customer purchases from the company expressed as a percentage of the size of the average customer purchase from an average company.

PS = Average price charged by this company expressed as a percentage of the average price charged by all companies.

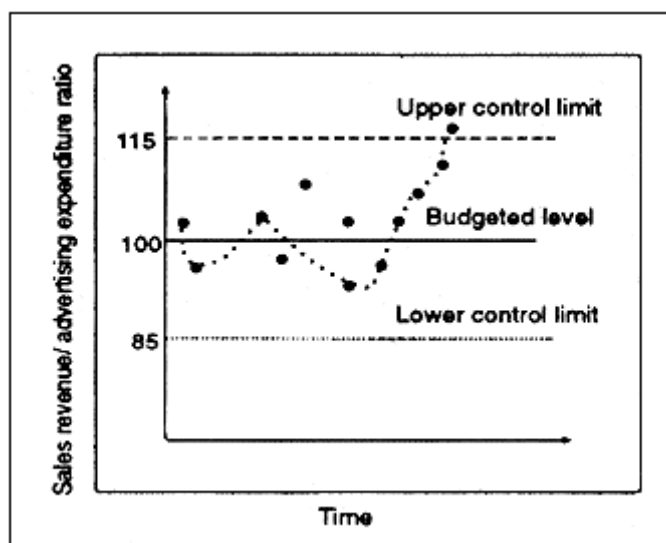
Example: If the CP = 3% and CL = 2% and CS = 2% and PS = 2%, then overall market share = $3 \times 2 \times 2 \times 2 = 24\%$.

Market expense to sales ratio

The marketing expense to sales ratio is used to ascertain whether the organisation is spending too much or too little on marketing in order to achieve its sales goals. The marketing expense to sales ratio can be made up of a number of components such as sales force size to sales, advertising to sales, sales promotion to sales, marketing research to sales and sales administration to sales. The monitoring procedure involves determining an acceptable level (or standard) and by using a variety of charting devices (control chart or expense to sales deviation chart) look at actual to budgeted expenditure.

An illustrative example may help to clarify the procedure. Suppose that management has decided that the organisation should spend around 0.01 percent of sales revenue on advertising. This equates to 1¢ in every \$1.00. Over a period of time, the following pattern of advertising expenditures to sales revenues is observed.

Figure 3.13 Marketing expense control chart



Before any decision or even interpretation, is made on the basis of these figures, management has to be clear on whether the baseline ratio was derived from some systematic evaluation of cause-and-effect or simply reflects what the organisation felt that it could afford. In the case of the latter, this chart is of doubtful value. If, on the other hand, the ratio has been arrived at after careful analysis, then when both the upper or lower boundaries are breached there is cause for concern. At the very least, management has to raise questions over the reasons why this has happened.

Customer attitude tracking

Whilst most of the control techniques described so far have been quantitative in nature, customer attitude tracking studies give qualitative information. The main customer attitude tracking measures are complaint or suggestion schemes, customer panels or customer surveys. These can be very useful in revealing what customers feel about the organisation, its products, services and behaviour towards society as a whole.

Profitability control

Besides annual plan control, organisations need to measure the profitability of their various products, territories, customer groups, trade channels and order sizes. This information will help management determine whether any products or marketing activity should be expanded, reduced or eliminated. There are two major techniques: marketing profitability analysis and Lorenz curves.

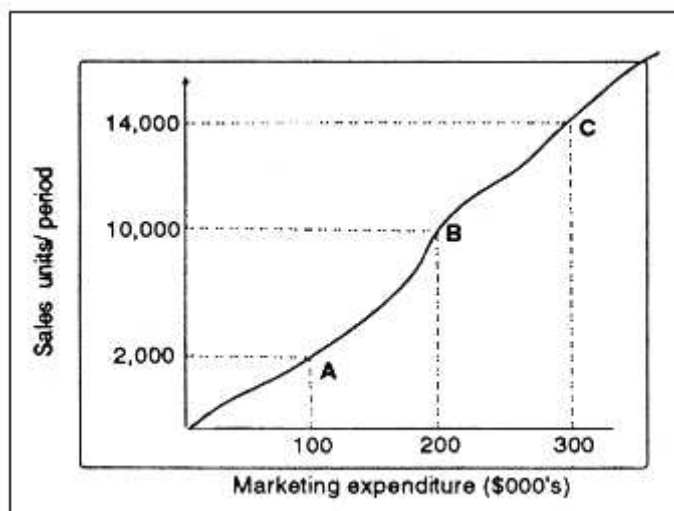
Marketing profitability analysis

This consists of starting from the target profit plan and then applying the control measure - marketing profitability analysis. Assume the manager of a line of baked products is setting his/her annual plan. Further assume that it is believed that:

- demand conditions will be the same next year as this year
- there will be no change in marketing strategy
- the price set will reflect only changes in input costs and not competitive activity
- the manager's interest is in making "satisfactory" not "optimal" profits.

In theory the manager should devise a plan intended to optimise the sales response function. A sales response function forecasts the likely sales volume during a specified period associated with different levels of one or more marketing mix elements. Typically he/she should assess the sales which would be generated by ever increasing amounts of marketing expenditure until the point of diminishing returns is reached.

Figure 3.14 The sales response function



With reference to figure 3.13 marketing expenditure of \$100,000 and \$200,000 will generate sales units of 2,000 and 10,000 respectively (points A and B). However the optimum marketing expenditure is \$300,000 resulting in sales units of 14,000 (point C). Any expenditure beyond this point will generate diminishing returns. In practice, estimating the optimum marketing expenditure is very difficult because of the interrelated effect of the marketing mix variables.

Case 3.2 One Man's Threat Is Another Man's Opportunity - The Case Of Venezuela's Flour Market

In the late 1950's Venezuela's Government adopted policies of high tariffs and import duties in order to encourage more manufacturing within the country. Up to that point Venezuela had been a very profitable export market for North American flour millers. MONACA, a wholly-owned subsidiary of International Foods, was the first 'local' company to invest in modern roller milling technology to take advantage of the situation. Within a few years MONACA was operating three large mills and was able to market all it produced, and it then diversified into animal feed production. The most interesting aspect of MONACA's success story is the strategy that changed a commodity export market into a market for value added branded consumer products.

MONACA's first challenge was to develop a market entry strategy into the consumer flour market. The competition was formidable with well known North American companies such as General Mills, Pillsbury and Quaker dominating

the market. In its search for an appropriate strategy MONACA conducted marketing research and discovered that some imported brands had quality control problems. A number of respondents to the survey complained that bugs got into the flour during shipment. To persuade consumers that its Robin Hood brand was bug free, MONACA packed it in clear plastic wrapping so that consumers were able to inspect the flour. Competitors' products were packed in paper. Within two years of launching this product MONACA had fifty percent of the market. To minimise distribution costs and maximise market penetration MONACA sold its product through an existing network of agents operating throughout the country. This gave the company a higher level of market coverage than competitors were able to achieve and MONACA were able to offer a higher level of customer service. From the outset MONACA adopted an aggressive marketing policy. Whereas most locally produced goods are considered inferior to their imported equivalents and local manufacturers typically try to conceal differences, MONACA believed its product to be superior and therefore emphasised the differences in its promotional campaigns.

The company has continued to grow and develop. In addition to its flour and feeds businesses, it manufactures convenience foods like its maize package mixes and a range of speciality flours. MONACA has succeeded in Venezuela because it boldly exploited the weaknesses of the competition and made sure that its product actually was superior.¹⁴

Returning to the example of the product manager for the baked products line, a plan set under his/her assumptions might look like that in table 3.3:

Table 3.3 Target profit plan

• Advertising	\$ 2,000,000
• Sales promotion	\$ 1,000,000
• Selling	\$ 2,500,000
• Marketing research	\$250,000

In this example the firm is estimated to make \$ 3 million profit after deduction of all expenditures. However, as indicated earlier, this analysis assumes a static position and a constant sales response rate. In practice, it may be necessary to perform sensitivity analysis on a number of combinations of the marketing mix elements. In the analysis in the table 3.3 a set of mix combinations could yield the following results shown in table 3.4). It should be noted that these results are before subtraction of variable and fixed costs and selling and marketing research costs.

Table 3.4 Marketing mix combinations and results

Marketing Mix No.	Price \$	Advertising \$	Promotion \$	Sales Units	Profits \$
1	20	2,000,000	1,000,000	1,250,000	22,000,000
2	20	2,000,000	4,000,000	3,000,000	56,000,000
3	20	4,000,000	1,000,000	2,000,000	37,000,000
4	25	2,000,000	1,000,000	1,000,000	22,000,000
5	25	4,000,000	4,000,000	3,000,000	67,000,000

In this case marketing mix number 5 would yield the best profit because:

Profit = Total revenue - Total cost

Profit = (Price × quantity) - Total variable cost - Fixed cost - Marketing cost.

Applying this to marketing mix No. 5:

$$\begin{aligned} \text{Profit} &= (\$25 \times 3,000,000) - (\$12 \times 3,000,000) - (12 \times 3,000,000) - (\$1 \times 3,000,000) - (4,000,000 \\ &\quad + 4,000,000 + 2,500,000) \\ &= \$25,000,000 \end{aligned}$$

Of course, this calculation would only be as accurate as the estimates of the responsiveness of the market to changes in price, advertising and promotion.

Marketing profitability analysis can also be applied to historical data to determine whether a territory, product or channel should be added to, altered, reduced or eliminated. This involves identifying or assigning the functional expenses to marketing activities and preparing a profit and loss statement for each marketing entity. For example, suppose that Quesi Ltd. sold its tree cutters through different outlets: its agricultural equipment suppliers, garden supply and retail stores. Further assume that management wanted to assess the profitability of each of the outlets and take any necessary corrective action. The methodology would be as follows:

The first step would be to analyse the profit and loss statement:

Table 3.5 A profit and loss statement for Quesi equipment

Sales	\$ 120,000
Cost of goods sold	<u>78,000</u>
Gross margin	42,000
Expenses	
Salaries	\$18,600

Rent	6,000	
Supplies	<u>7,000</u>	<u>31,600</u>
Net profit		10,400

The next step would be to apportion functional expenses to each major cost category of the business as illustrated in table 3.6.

Table 3.6 Apportioning functional expenses

	Total	Selling	Advertising	Packing and delivery	Billing and collecting
Salaries	18,600	10,200	2,400	2,800	3,200
Rent	6,000	-	800	4,000	1,200
Supplies	14,000	800	3,000	2,800	400
	31,600	11,000	6,200	9,600	4,800

Next the manager would assign the functional expenses to the various marketing entities in order to develop a profit and loss account for each one. This is illustrated in the table which follows.

Table 3.7 Assigning functional expenses to marketing entities

	Selling	Advertising	Packing and delivery	Billing and collecting
Channel type	No. of sales calls in period	No. of advertisements	No. of orders placed in period	No. of orders placed in period
Street traders	400	100	100	100
Small shops	130	40	42	42
Supermarkets	20	60	18	18
Total calls	550	200	160	160
Functional expense/No. of units	\$11,000/550	\$6200/200	\$9600/160	\$4800 /60
	\$20	\$31	\$60	\$30

Table 3.8 Profit and loss statement for each marketing entity

	Agents (\$)	Garden supply (\$)	Department stores (\$)	All retail outlets (\$)
Sales	60,000	20,000	40,000	120,000
Cost of goods sold	39,000	13,000	26,000	78,000
Gross margin	21,000	7,000	14,000	42,000
Expenses				
Selling (\$20/call)	8,000	2,600	400	11,000
Advertising (\$31/ad)	3,100	1,240	1,860	6,200
Packing & Del. (\$60/order)	6,000	2,520	1,080	9,600
Billing (\$30/order)	3,000	1,260	540	4,800
Total expenses	20,100	7,620	3,880	31,600
Net profit	900	(620)	10,120	10,400

In this case selling through the garden supply stores is causing a loss and therefore management may decide to cut the level of service to this type of outlet, increase sales, cut down on expenses

or alter the marketing mix.

Lorenz curves

The 80/20 principle enjoys wide acceptance and applicability in marketing. Typically, this principle manifests itself in statements like, "Eighty percent of an organisation's profits arise from only twenty percent of the products within the product range". Or:-

- 20% of stock items account for 80% of inventory costs, or
- 20% of customers provide 80% of sales volumes, revenues and/or profits, or
- 20% of the distribution outlets served provide 80% of consumer sales

Table 3.9 Analysing the contribution of products to sales volumes

Product	Unit Sales (000's tonnes)	Cumulative Sales (000's tonnes)	Cumulative Percent Of All Sales
White Maize	400	400	40.0
Wheat	200	600	60.0
Rice (paddy)	150	750	75.0
Sorghum	100	850	85.0
Sunflower seed	100	950	95.0
Groundnuts	20	970	97.0
Yellow maize	15	985	98.5
Coffee beans	10	995	99.5
Rice (upland)	3	998	99.8
Rapoko	2	1000	100.0

Where the 80/20 principle is seen to apply, marketing management focuses its control on the "twenty percent". Thus, for instance, only relatively senior personnel are authorised to place purchase orders for those stock items which fall into the "20% category" since control over the amount invested in these items has a significant effect upon the cash flow and profitability of the organisation. In the same way, marketing management is likely to concentrate resources on the customer groups and/or middlemen who generate the greater proportion of the organisation's turnover and/or profits.

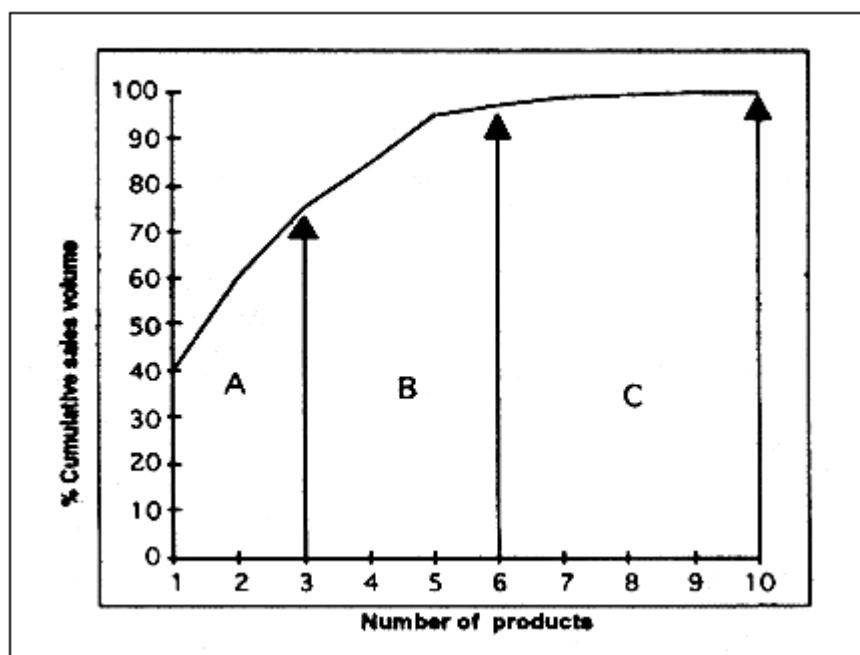
Lorenz curves are a mathematical-graphical method of analysing the degree of concentration of sales, revenues, profits and/or costs of a business. The hypothetical data in table 3.9 show that just two products, maize and wheat, account for the great majority of the organisation's sales volume. More precisely, 20 percent of the items in the product range (i.e. 2 out of 10) account for 80 percent of total unit sales. Given the importance of these commodities the organisation will pay particular attention to procuring and promoting wheat and maize. If sales of these products decline, even to a small extent, then this would have a substantial effect on the organisation's trading position.

The degree of concentration in the organisation's business becomes even more apparent when the table of data is displayed graphically as a Lorenz curve as in figure 3.15. Of course, it rarely happens that the concentration of sales conforms precisely to the 80/20 ratio but it is surprising just how widely applicable the pattern of concentration is to business phenomena. Businesses find that a small proportion of stock items accounts for the greater part of the value of their inventory; that most of their profit arises from a relative small number of products within the total product range and that a minority of customers/distributors generates the majority of sales and/or profits.

The Lorenz curve allows the categorisation of the products marketed according to their respective contributions to sales. In this example there appear to be three categories which have been

labelled A, B and C. Category A items - which are only 30 percent of the product range - have to be managed very carefully since they add up to 75 percent of sales volume and, therefore, the performance of these items is critical to the organisation. Category B products add a further 20 percent to total sales volume and although having less impact on the overall performance of the enterprise, nonetheless should be regularly monitored. If categories A and B are combined then it is found that 50 percent of the product range is responsible for 95 percent of volume sales. Given, however, that category B products (i.e. 50 percent of the product range) collectively yield only 5 percent of unit sales and their performance in any season will have only a modest effect upon the organisation's overall sales results these do not merit too much of management's time and effort.

Figure 3.15 A Lorenz curve



An obvious response is to delete products in category C from the company portfolio on the grounds that these items contribute relatively little to the company's sales volumes. The pattern of sales volume concentration might also have implications for the structure of marketing management within the enterprise. Each of the products in category A might justify the assignment of an individual product or brand manager whereas items in categories B and C could be managed collectively as a product range and possibly by less senior personnel. Other marketing decisions which could be influenced by the degree of sales volume concentration revealed by the Lorenz curve include:

How the promotional budget should be allocated

Where sales personnel should focus their time

Determination of inventory and reorder levels for products

Production scheduling

Identification of priorities for the cutting and/or control of marketing costs.

When basing decisions on the analysis which a Lorenz curve provides, there are a number of *caveats*. For instance, when contemplating the deletion of products from the product line, the decision to take this action should only be made after consideration has been given to the reasons for the apparently poor performance of the products in category C. It may be possible to improve the sales of these items by giving them greater support or through more imaginative marketing. Even if this is not the case and the potential of these products is limited, their retention may be justified because they complement more profitable items and customers expect the

manufacturer, producer or supplier to offer a complete product line.

It also has to be remembered that a Lorenz curve represents a 'snapshot' of the situation at a particular point in time. No account is taken of the future position of these products. That is, the top performing products of today may, in the longer term, fall into decline whilst other products achieving only moderate sales could be the 'star performers' of the future. The Lorenz curve may show a spurious concentration due to the capturing of data at a single point in time when, in reality, there are random fluctuations in period-to-period buying.

Several perspectives should be taken when conducting an analysis of this type. It may be the case that a certain product, or group of products, is assigned to a low category when the criterion is 'sales volume' but would fall into a higher category when the criterion used is perhaps 'profit contribution'.

Efficiency Control

If the profitability analysis reveals that the company is earning poor profits in connection with certain products, territories or markets, the question is whether there are more efficient ways to manage the sales force, advertising, sales promotion and distribution in connection with these poor performing entities.

Sales force efficiency

Hartley¹⁵ provides the following key indicators of sales force efficiency in their territory:

- average number of calls per salesperson per day
- average sales call time per contact
- average revenue per sales call
- average cost per sales call
- percentage of orders per 100 sales calls
- number of new customers per period
- number of lost customers per period
- sales force cost as a percentage of total sales.

Advertising efficiency

Difficult as it is, the marketer should try and track the following:

- advertising cost per thousand buyers reached overall, for each media category, and each media vehicle
- percentage of audience who noted, saw/associated, and read most for each media vehicle
- consumer opinions on the advertisement content and effectiveness before/after measures of attitude towards the product
- number of inquiries stimulated by the advertisement
- cost per inquiry.

Sales promotion efficiency

Track should be kept of each sales promotion campaign and its impact on sales:

- percentage of sales sold on the offer
- display cost per \$ sales
- percentage of coupons redeemed
- number of inquiries resulting from the demonstration.

Distribution efficiency

This will enable the marketer to search for economies in distribution. Measures are mainly taken through statistical/operational research methods:

- inventory control
- warehouse location
- transportation methods - optimum routing, scheduling, loading, unloading.

Monitoring and control enables marketing management to address two vital questions: are resources being used effectively and is there a better way of using them? In answering these questions much waste can be removed from marketing activities and functions.

Summary

An organisation's corporate strategy comprises a statement of its mission, its overall objectives and the means by which these are to be met. Business policies are bodies of rules established to guide managers in their decision making. They are, in a sense, a predetermined range of responses to defined situations. Market planning is a principal component of corporate planning. Corporate planning also involves planning the financial, personnel and production resources of an enterprise. Marketing planning involves setting objectives, designing and implementing a programme to achieve the organisation's objectives and having a monitoring and control mechanism to ascertain whether the planned programme is on track or has achieved its desired objectives. Marketing planning breaks down into strategic planning and operational planning. Strategic marketing planning began as a response to the inadequacy of assuming that the future will look very much like the past. It is dangerous for a business to extrapolate in economies and markets that are developing and changing. Strategic market planning enables organisations to anticipate events rather than merely react to them.

In very large and highly diversified organisations managers can feel divorced from the events and decisions that are shaping the business. The concept of a strategic business unit (SBU) was developed as a means of retaining the vitality of the entrepreneurial spirit by giving management a high degree of responsibility and autonomy in decision making. The SBU becomes a separate business entity, although still belonging to a larger commercial enterprise, having its own defined business strategy and a management with direct responsibility for its profits and sales performance. SBUs can be based around individual brands but it is more common for a large corporation to break down its business according to either product categories (e.g. fertilizers, grain trading and farm buildings) or markets served (e.g. agriculture, distribution and construction and design).

Plans can be categorised according to time span and complexity. Strategic marketing plans which are intended to guide management in the long term generally have a 2 – 3 year time horizon whereas operational marketing plans are revised annually and tactical plans usually extend over a one to three month period. The marketing plan will include an executive summary, a statement of corporate purpose, a situation analysis (SWOT), objectives, strategies, action plan, monitoring evaluation and control and the marketing intelligence system.

There are two main ways of achieving improved market performance, i.e. volume or productivity strategies. Basically the choice is to increase volume or reduce costs; ideally these should be pursued simultaneously. Increasing volumes can be achieved by increasing market growth and/or market share.

It is the task of management to ensure that the marketing plan is carefully monitored, evaluated and controlled. Typical controls involve setting standards of performance, evaluating actual performance against standards and, if the deviations are intolerable, taking corrective action. Marketing planning can be seen as a cycle, which begins with clear objectives that set out what the marketer intends to achieve, and ending with a feedback mechanism in order that the objectives can be evaluated, a course of corrective action can be taken (if there are deviations from plans) and the organisation can monitor its usage of resources. There are four types of marketing control: the annual plan control, profitability control, efficiency control and strategic control. Among the more popular techniques used in monitoring the actual marketing performance of an organisation are sales analysis, market share analysis, marketing expenses to sales ratios, attitude tracking, profitability and efficiency analysis and Lorenz curves. If the analysis reveals that the company is performing badly in connection with certain products,

territories or markets, the question is whether there are more efficient ways to manage the sales force, advertising, sales promotion and distribution in connection with these poor performing entities.

Key Terms

Brand plans	Lorenz curves	Product line plans	Strategic marketing plans
Business policy	Market share analysis	Product/market plans	Strategic business units
Corporate strategy	Marketing tactics	Product plans	SWOT
Divisional plans	Mission statement	Profitability analysis	
Functional plans	Operational planning	Sales analysis	

Review Questions

From your knowledge of the content of this chapter, answer the questions below briefly.

1. Name as many different types of marketing plan as you can.
2. What is an SBU?
3. What is the essential distinction between 'strengths and weaknesses', on the one hand, and 'opportunities and threats', on the other?
4. Explain the term 'generic strategies'.
5. Give a brief summary of the principal benefits of strategic market planning identified by Aaker.
6. Briefly outline the main market coverage strategies.
7. What are the 4 categories of organisational objectives summarised by Greenley?
8. What are the 2 types of marketing planning?
9. Which measures, suitable for assessing how well/badly an enterprise is performing in relation to its marketing plan, are explained in this chapter?
10. What is the 80/20 principle?
11. What does the advertising response curve tell us about the setting of advertising expenditures?
12. Outline the main headings likely to be found in a marketing plan.

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Chapter 4

New Product Development

The introduction of innovative products carries high financial risks. Indeed, a major American management consulting company, Booz, Allen & Hamilton¹, once suggested that only 1 in 100 new product ideas succeeds in the marketplace. However, the estimates of new product failures vary enormously, but such variation need not be of concern here. The point of interest is that there are a great many more new product failures than new product successes. What makes organisations take the risks attached to innovation is the possibility of high rewards. Moreover, as will shortly be explained, a certain amount of innovation is necessary in all organisations operating in competitive markets.

Chapter Objectives

This chapter on new product development is designed to provide the reader with an understanding of:

- Why organisations are motivated to accept the risks of product innovations
- A model of the new product development process that can be used to manage the risks of innovation
- The methods and techniques commonly employed in determining which products ought to be launched on to the market
- The major factors which tend to influence the level and rate of adoption of new products.

Structure of The Chapter

The chapter opens by explaining how and why a commercial organisation's profitability is likely to fall as its portfolio of products 'ages' and enters into decline. There then follows a description of a model of the new product development process which is commonly used to manage the inherent risks of innovations. The model involves a sequence of steps. At each step in this sequential model the investment cost increases and the organisation must judge whether the chances of success outweigh the risks of failure. Each step is discussed in some detail within the chapter. Thereafter the discussion moves on to the adoption process. Drawing from empirical evidence reported in the marketing literature, various categories of adopters of innovations are identified. These range from those who tend to be among the first to accept the innovation through to those who lag behind until the new product, service or system has been tried and tested beyond question. The latter part of the chapter examines the product characteristics that tend to either accelerate or retard the rate of adoption of an innovation.

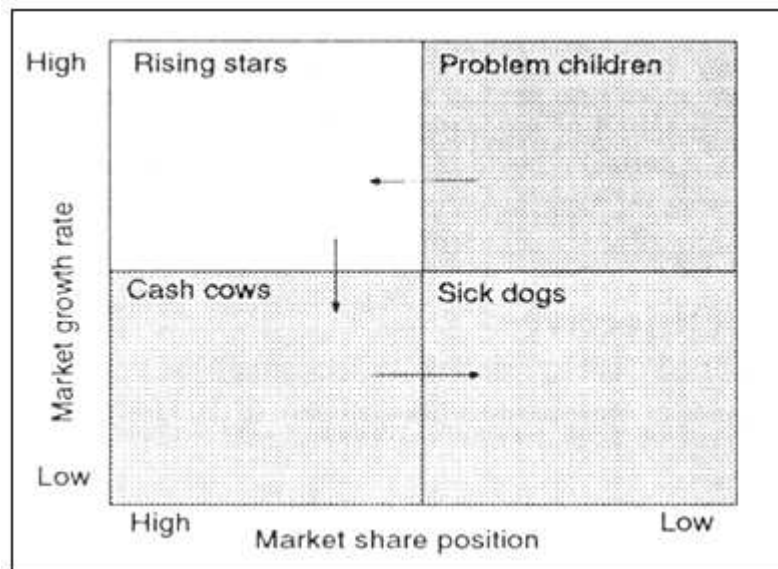
The impetus to innovation

In the 1960's, the Boston Consulting Group growth-share matrix² was developed as an analytical tool for assessing the performance of an organisation's (BCG) portfolio of products. Portfolio analysis focuses upon the rate of growth of a market in which an organisation participates and

the strength of that organisation within that market, as measured by its share of the total sales volume of the market. Thus, the Boston Portfolio Analysis takes the form of a growth-share matrix in which an organisation's market share is plotted against the rate of growth of the market in which it has invested. Figure 4.1 depicts the growth-share matrix.

The cut-off point at which a low growth market becomes a high growth market is entirely arbitrary, but conventionally this is set at 10 percent. An organisation's share of the market is measured relative to that of the largest competitor. The ratio between the two determines whether the organisation is placed in the high or low share category. The share dimension is measured on a logarithmic scale where the cut-off point is 1.0. At this point, the market share of a company is exactly the same as that of the biggest competitor. An index number greater than 1.0 indicates market leadership, whilst the lower the index the greater the extent to which the organisation trails behind competitors.

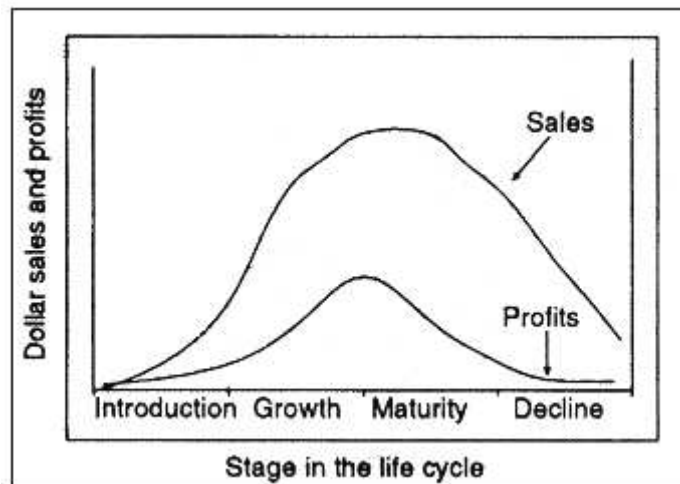
Figure 4.1 Portfolio analysis



The growth-share matrix is divided into quadrants and these can be applied to products, groups of products, divisions within a large corporation or whole businesses within an economy. These quadrants have been given the somewhat colourful, but therefore memorable, labels of rising stars, cash cows, problem children and sick dogs.

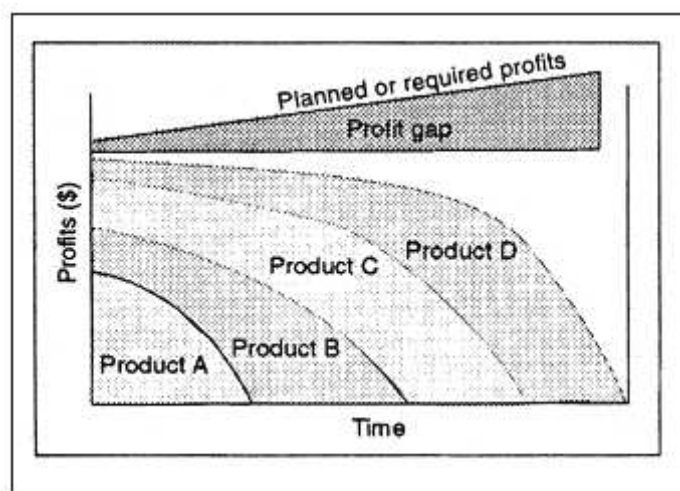
Rising stars: The upper left quadrant contains products or businesses operating in high-growth markets. Products or businesses located in this quadrant will require large amounts of cash to sustain their position in this market and to maintain the momentum of market growth. Even though rising stars may generate high sales volumes and revenues, these are likely to be outstripped by the amounts of cash required to support the product or business during the fast growth stage. At this stage substantial amounts of money are likely to be necessary to create awareness of the new product and to establish a distribution network, etc. Therefore, rising stars tend to be net cash absorbers. This is perhaps better appreciated if businesses are aware of the product life cycle (PLC) concept. The concept applies to products at an industry level rather than at an individual company or brand level.

Marketing theory suggests that products have a 4-stage life cycle: introduction (slow growth), rapid growth, maturity and decline. During the early stage sales volumes and revenues increase very slowly because the target market only gradually becomes aware of the product and its benefits. Assuming that the product is perceived to provide meaningful benefits, it may then enter into the rapid growth stage where sales volumes escalate fast. However, cash outflows are likely to be substantial because of the investment in such items as raw materials, production, packaging, transportation, organising a channel of distribution, promotional activities, etc. Moreover, there is likely to have been a sizeable investment in capital equipment, research and development and in buildings etc. The product will be in the market sometime before these costs are fully recouped.

Figure 4.2 The product life cycle - entire industry

It is only when the product has gathered its own momentum and perhaps needs less marketing support, much of the initial capital investment has been recouped, unit costs fall due to efficiencies realised through cumulative production experience and competition has come to be based on factors other than price that rising stars become cash cows.

The concepts of rising stars and the PLC have a number of implications for businesses. Whilst rising stars are always needed, because these become the cash cows of tomorrow, having too many rising stars can create cash flow problems. At any point in time, there needs to be a balance in the portfolio between cash absorbers and cash generators. It also has to be recognised that no matter how successful a product or business is, it will eventually come to the end of its life cycle. Before it does so, new products must have been introduced to take its place. The figure below illustrates a situation where a portfolio of products which have generated revenues and profits in the past are experiencing declining sales without a programme of planned replacement. As more of these products go into decline, the gap between target and realised profits widens.

Figure 4.3 A widening profit gap due to decline across the product portfolio

Cash cows: Products or businesses located in the bottom left quadrant are those with high market shares in low growth markets. Because the market is mature, the cash requirement is lower and products or businesses in this quadrant become net cash generators. Where there are cash cows, there is the danger of complacency, with little thought being given to the need for forward planning of the business portfolio.

Problem children: Low share businesses in high growth markets represent problem children (elsewhere known as wildcats or question marks). Problem children are cash absorbers, in the short-run, because of the resources required to increase their market share (e.g. advertising,

special promotions, discounts etc.). If these products cannot be converted to rising stars, they will become a long term, cash absorbing sick dog when the market matures. Only so many 'problem children' can be supported at any point in time and it may be better, in the case of at least some of them, if they are sold off or starved of resources and milked for whatever cash they can generate.

Sick dogs: Low-share businesses, in low growth markets, exhibit weak performance and so are termed sick dogs. Such businesses yield very low profits, and sometimes losses. Because market growth is slow, attempts to increase their market share are usually very costly and so it is rarely attempted. Sick dogs are net cash absorbers and can become a perpetual 'cash trap'.

Two alternative courses of action may be pursued with respect to sick dogs. A 'dog' can become a star and then a cash cow by switching to a niche market which the product/business can dominate. For example, suppose we have a plant producing fermented milk for sale to low-income consumers but the product is struggling in a highly competitive, but low growth market. Our strategy might be to repackage the product and target it at high-income consumers as a substitute for soured cream in baking or cooking. Other options would be to sell the product to another manufacturer or to make no further investment but to milk the product for whatever cash can be generated.

As an analytical tool, the growth-share matrix has the advantage of being both simple and quantifiable. It is therefore a useful first step in portfolio analysis. Growth was selected by the BCG to indicate attractiveness of a market because it directly relates to the stage which a product has reached in its life cycle. The PLC is a key strategic consideration. The market share dimension is important because empirical evidence indicates a direct relationship with profitability.

In the long run, organisations which do not innovate whilst their competitors do will eventually find that their growth and profitability begins to falter as their existing products go into decline. If an organisation is active in launching new products it must be careful to ensure a balance between products within its items product portfolio

It should be noted that whilst this chapter focuses upon new product development, management must not forget that innovations take other forms which have implications for marketing. Kohls and Uhl³ describe an innovation as:

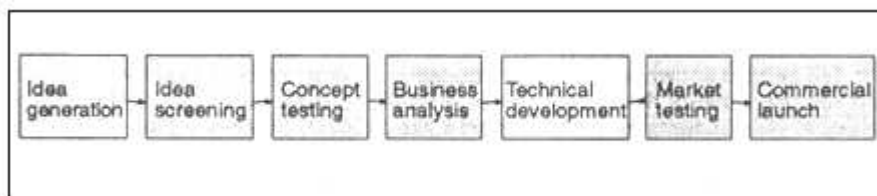
"...the discovery and application of a new idea. Three types of innovation have been important for food manufacturers: (1) new marketing methods and techniques-which often increase operational efficiency (2) new products or services - which add more consumer value to products and (3) new business organisations- such as the cooperative food processor, joint ventures between firms, or new marketing channels."

Kohls and Uhl go on to cite the development of frozen orange juice in the 1940s as an example of an innovation which exemplifies each of these forms of innovation. Because the product was concentrated and reduced the volume of product to be transported and stored, the marketing costs were reduced. In addition, certain types of consumer preferred the concentrate to either fresh oranges or single strength juice and a new processing industry came into being.

The new product development process

Figure 4.4 depicts the new product development process. The objective of these steps is to avoid costly failures by continually reviewing the prospects for the new product/product idea, and give the company several discrete points in time at which the decision to drop the product and cut their losses can be made. The most expensive mistake which can be made is to launch a product which ultimately proves unsuccessful. By the time a product is launched, all of the development costs have been incurred and investments have been made in production equipment. Heavy marketing costs have also been incurred in setting up the distribution system, promotional expenditure and so forth.

Figure 4.4 The new product development process



Idea generation

The objective of idea generation is to gather as many ideas as possible and from any and all possible sources. Possible sources include:

<u>Internal</u>	<u>External</u>
R & D department, committee or task force	Suppliers or market intermediaries
Top executives	Customers
Sales representatives	Competition
Production staff	Freelance inventors
Other company employees	Consultants
Noncompetitive firms	Patent applications
The public	

In addition, there are a number of marketing research techniques that may be used when an organisation purposefully seeks to generate new product ideas. These include brainstorming, synectics, morphological analysis, scenario writing and Delphi forecasting.^a

The emphasis, at this stage, is upon the quantity of ideas with no source, nor idea, being rejected. The natural tendency to evaluate new ideas the moment they are generated has to be resisted. The process of making judgements about ideas is treated separately and in this way, the number of good ideas which are rejected either because no one can immediately see how it could be made to work or cannot conceive what its applications might be, is reduced. It frequently happens that an idea unusable in its original form can be made to work either in another form or used in a different context. It is remarkable, for example, that Alexander Fleming, who is credited with the discovery of penicillin, did not realise its practical application as an antibiotic. This development was left to others scientists and it did not happen for a decade after Fleming first observed the chance killing of a bacterial culture on a dish. Likewise, it is said that when ICI first developed polystyrene no one knew what to do with it.

Idea screening

Having generated a number, -sometimes a large number- of ideas, the filtration process must begin. The objective is to identify new product ideas which are weak in terms of their chances of market success or their potential return-on-investment. The important point here is that product ideas must be evaluated against the company's objectives. A company must have a clear mission and know what business it is in. Only then can product ideas be matched with company objectives and resources.

Consider the example, of a manufacturer of processed meat products (sausages, hamburgers, corned beef etc.) Who developed an improved binding agent based on rolled oat rather than rusk. Wishing to fully exploit this development, some individuals, within the company, wanted to market the new binding agent to other food manufacturers as well as making use of it to improve their own meat products. On the face of it this proposition made good sense since it appeared to meet a market need but the idea was rejected because it did not fit the company's objectives or resources. First, whilst the rolled oat based product was unquestionably superior in performance to rusk binding agents it cost almost twice as much. Substantial resources would have had to be devoted to marketing the product to others. Second, the company had expertise in consumer marketing but no experience in industrial marketing. Third, the company profit objectives were tied to exploiting volume markets through mass marketing. In contrast, the new binding agent was

only likely to appeal to a niche market i.e. those food companies with premium quality meat products where the cost of the value added by the improved binder could be recouped.

a. An account of these methods is outwith the scope of this text but readers who wish to learn about them will find a brief bibliography at the end of this chapter.

Product development policy covers such points as compatibility, market potential and financial objectives. These can be put into check-list format for screening purposes. Figure 4.5 illustrates the point by providing a partial check-list.

Figure 4.5 A checklist for screening new product ideas

	Very desirable	Very undesirable
In terms of effectively using our R & D know how, the product is.....	●	●
In terms of effectively using our marketing know how the product is.....	●	●
In terms of effectively using our production know how the product is.....	●	●
Qualified personnel are :	Available	Unavailable
R & D.....	●	●
Marketing.....	●	●
Production.....	●	●
	Significant advantage	Significant disadvantage
Our raw material position will create a.....	●	●
Our ability to handle physical distribution will create a.....	●	●
The manufacturing facilities which will be used will yield a.....	●	●

Of course, the checklist in figure 4.5 is far from complete but it does serve to illustrate the types of objectives and resources with which new product ideas have to be matched. Moreover, product policy is not forever fixed. Once established it can be modified but this should be done with care and only for good reasons. For instance, a manufacturer of whose defined business is savoury food snacks might later move into confectionery markets because of saturation in their traditional markets and the close match between the distribution arrangements, service levels, profitability etc. in the two sectors.

If it is conducted well, the screening process will enable the organisation to determine which new product ideas are right for it. The question remaining, at this point, is which products would be right for the customer.

Concept testing

Many factors contribute to the failure of new products but a principal cause is the inability to predict customer response to new products and services. Systematic tests can be used to reduce expensive failures. These include; concept testing, market positioning tests, product testing and market testing.

Another word for 'concept' is idea, and so Moore⁴ says that the chief purpose of concept tests is:

“...to estimate customer reactions to a product idea before committing substantial funds to it.”

The product idea has to be converted to a product concept. It is often possible to develop several product concepts from a single product idea. Consider the following product idea:

“A powdered product that adds considerable nutrition when mixed with milk.”

A cross-section of the general public could be asked to respond to this product idea and may be able to comment on the intrinsic appeal of the idea and, more especially, could make suggestions as to where it would best be positioned in the market. However, the statement conveys only a basic product idea. It could give rise to several quite different product concepts, for example:

- Concept 1: A snack food for people who, on specific occasions, find that they have insufficient time to consume a full meal. (The statement could be further elaborated to specify whether it is intended as an alternative breakfast food or to be taken at other times of the day).
- Concept 2: A food high in energy, protein and minerals capable of effecting a rapid recovery in malnourished children as part of a nutrition intervention programme.
- Concept 3: An easily digested and nutritious food for people whose medical condition prevents them from eating solid foods.
- Concept 4: A health food intended for people active in sports.
- Concept 5: A food for babies to sustain health and promote rapid growth.

It can be seen from these examples that a product concept statement will often reveal where the product is to be positioned in the market. Each product concept would engage a different set of competitors. If only one concept statement is used then this may or may not position the product in the market in which it has the best chance of success or where potential profits are greatest.

Concept tests can vary in form. The new product concept may be presented as a simple statement presented to a sample of potential users, it could be a mock advertisement to which people are asked to respond or a line drawing or even a model of the proposed product. Moreover, concept tests never test concepts. Since concepts are ideas, they are in someone's mind. These ideas are translated into statements, visual aids or models and it is the respondent's reaction to those ideas which is in fact measured. The distinction is important. The task of translating ideas into a concept statement, visual medium or physical model that adequately conveys the essential characteristics (some of which could well be sensory) and benefits of the product is not an easy one. Very often researchers will make use of one or more focus groups or a series of personal interviews to help in making this translation. During the interviews respondents might be shown a preliminary concept statement, visual representation or model and asked to respond to it. The researcher is trying to find answers to determine whether or not the concept statement, visual medium or model conveys the essence of the new product idea without ambiguity and with potency.

It is important to be clear as to what exactly is being measured. This could be a response to the basic product idea (a concept test), the proposed use and target customer group (a product positioning test) or to the physical properties and characteristics of the product itself (a product test). If there is a lack of clarity on the precise objectives of the test, it is impossible to draw conclusions from the test. A negative response leaves unanswered the question of what it is that the sample has rejected the basic idea, the particular position in the market presented to them or some, or all, of the physical characteristics of the product and this makes it difficult to take corrective action. Similarly, a positive result is of limited value since it cannot be established whether or not the optimal formula with regard to concept, positioning and product has been achieved. Typical questions that are addressed through a concept test are:

- Do they understand the concept?
- Do they believe the concept?
- Is the concept different from other products in an important way?
- Do they like or dislike the concept and why?
- What could be done to make the product more acceptable?
- How would they like to see the product (colour, size, etc.)?
- Would they try it?
- What would be their pattern of usage in terms of purpose, frequency, place of usage etc.?
- Where would they expect to purchase such a product?
- With which existing products do they tend to compare this product concept?

If the likely positioning of the product has already been decided upon, then this becomes an explicit component of the product concept and questions which require respondents to compare this new product to existing products can be added, since marketing managers should have some notion of where the competition will come from. However care has to be taken when interpreting the information. After all, at this point the proposed product will still be conceptual to the respondents, unless of course they have been able to try it, whereas they may well have actual experience of competing products. Even if respondents have been given the opportunity to try the product, limited trials are not directly comparable to extended use of a product.

A commonly voiced complaint about concept tests is their apparently poor performance in predicting market success. This is in part due to:

- a. the product failing to provide the benefits perceived to have been promised in the concept statement
- b. changes in the concept, positioning or physical product between the concept test and the introduction of the product
- c. changes in the legal and/or social environment between the point in time when the concept test was undertaken and the time when the product was launched on to the market.

There is a fourth reason. When a concept test is conducted, a vital component is omitted, i.e. the dynamics of the marketplace. At most the product has been tested but not the marketing mix. This is something that is done much later in the new product development process and is known as test marketing. It is for this reason that concept tests are recommended for use as an early screening device to obtain some guidance on likely customer reaction to an idea and to predict trial rate.

A concept test will not reveal what the potential market is in numerical terms. At best it answers the sorts of questions previously listed. Even if the positioning of the product has been determined there are difficulties in projecting the likely market share or sales since much depends upon the acceptability of the physical product and, just as importantly, the marketing strategy and marketing mix. At the same time, to omit concept tests and jump straight to quantitative studies which begin from the premise that the organisation has got the concept right carries great risks. Such research can be expensive but won't reveal those occasions when a modification to either the way in which the idea is projected or the positioning would result in a greater degree of success. Similarly, research may discover, for example, a real growth in the market for frozen ready prepared meals at the top end of the market, and projections of sales based on assumptions as to the minimum market share likely to be captured may be made. Later it could be discovered that whereas competing premium brands are used on everyday occasions the new product is perceived as being so special that it is served only on special occasions and therefore

total volume is significantly lower.

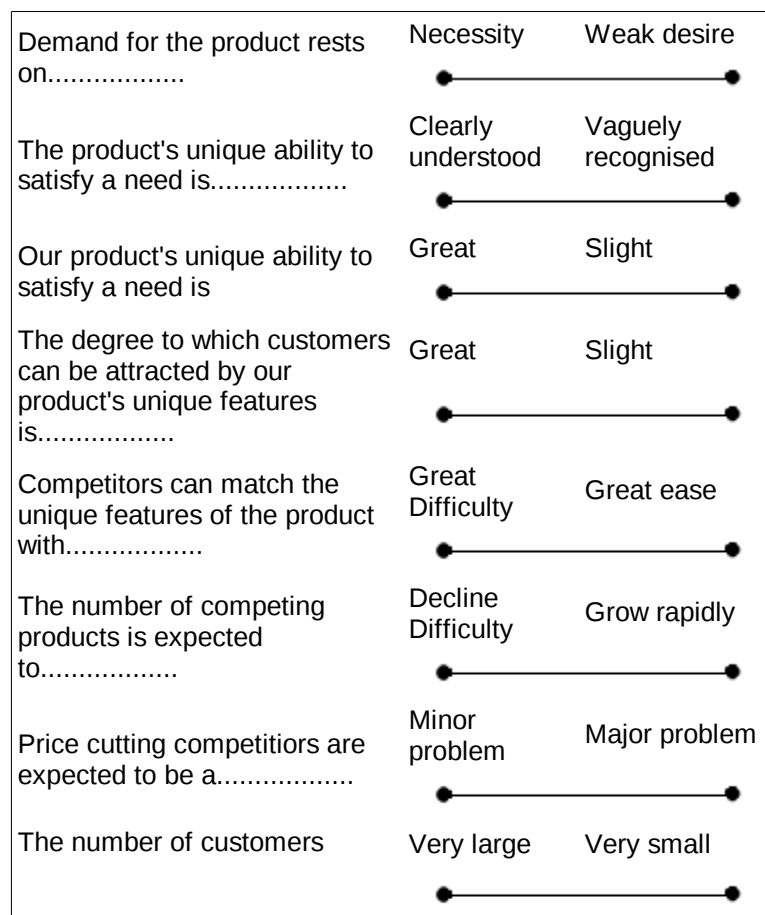
Business analysis

By this stage, a number of new product ideas which do not match company objectives and/or resources will possibly have been screened out and others will have been modified as a result of the concept and/or positioning tests. Sometimes no product ideas remain after screening but assuming one or more ideas remain, and that decisions have been made as to where in the market the product might be positioned, the next task is to prepare a business analysis. Such an analysis would involve an assessment of the total capital investment cost, the likely return-on-investment and the payback period. Where at all possible this should be carried out before a physical product has been manufactured or otherwise produced. The objective at this stage is not to produce precise sales forecasts but to establish the broad order of magnitude of probable sales volumes, revenues and expenses. After all, in many instances no physical product will have yet been produced or tested among potential customers. This being the case, it is virtually impossible to arrive at precise sales or profit forecasts for the product. Instead, the analysis is likely to concentrate on the broad prospects for the product class within which the proposed product would fall and from that some crude estimates of sales and profits for the specific product might be made.

The business analysis phase typically involves the use of a set of *pro forma* financial statements showing what future income and expenses would be if a new product idea were fully developed and marketed. To show the risks, opportunities and payback periods, short-run (6 months - 1 year), intermediate (1–3 years) and long-range estimates (3–5 years) may be prepared.

In addition to quantitative data, and organisation considering the development of a new product is likely to assess qualitative information. Figure 4.6 shows some of the qualitative questions which would be addressed during the business analysis phase and would accompany the financial analysis.

Figure 4.6 Key issues to be addressed as part of the business analysis phase in new product development



buying this type of product is.....		
The geographic distribution of customers will be a.....	Marked advantage	Serious disadvantage
In relation to customer's annual purchases, this type of product constitute a.....	Large share	Small share

Although the questions appearing in figure 4.6 are but a sample of those which would be asked as part of the screening process, it can be seen that these are of two types; those which can be asked internally and those which require data from prospective consumers. As well as screening out product ideas which do not match company objectives and/or resources, management will be anxious to either drop or modify product ideas which consumers either do not understand or do not value. In other words, the company will want to test the product idea, or concept, before proceeding to technical development of that idea/concept.

Technical development

In this phase the product concept is translated into a prototype or trial formulation in the case of a food product, animal health treatment or agrochemical. At any one time, only one product idea is likely to undergo technical development. Nonetheless, as the company enters the technical development stage its level of investment is likely to involve a quantum increase. Prior to this phase little capital will have been invested in materials or equipment. This being so, it is vital that ideas/concepts have been critically screened and a through economic analysis of the project undertaken.

Case 4.1 Developing Dehydrated Vegetable Products In Sri Lanka

Sri Lanka grows an abundance of vegetables but the market is characterised by over-supply immediately after harvest and a substantial proportion of the crop is wasted. For the remainder of the year, most of these vegetables are in short-supply. It was thought that the dehydration of vegetables was the answer for both growers, who suffered substantial losses in periods of glut and for consumers who were deprived of many vegetables in the off-season. Dehydration presented itself as an effective and inexpensive method of preserving vegetables. It was hoped that vegetable dehydration facilities could be established in the pastoral areas in order to bring employment and additional income to rural people.

The Ceylon Institute of Scientific and Industrial Research had developed improved methods of solar drying intended to replace traditional sun drying which tended to produce discoloured and limited shelf life vegetables. The Institute's dehydration system involved taking fresh, whole, blanched vegetables which were cut or sliced into appropriate pieces, pretreated as necessary, and dried in a box-type solar drier. Optimum product quality and dehydration characteristics were achieved when products were dried to a moisture content of 6–8%.

Dehydrated vegetables were not established in

urban markets but sun dried vegetables were common in rural areas. Therefore, it was important to establish the acceptability of the dried vegetables during the early stages of the project and any changes that would need to be made in the characteristics of the product in order to improve its prospects in the market. Since the concept of dehydrated vegetables was not one with which urban consumers were overly familiar, the strategy used in introducing them would have to be based on a clear understanding of the consumer needs that these vegetables could fill. To these ends, a consumer survey was undertaken. Whilst the Institute had experimented with the dehydration of a wide range of vegetables, and fruit, it was decided that the initial study should concentrate on just three—ash plantain, drumstick and bittergourd. These were chosen because they were amongst the most popular fresh vegetables consumed in Sri Lanka.

The results of the survey were to greatly influence the future direction of product development. It was established that dehydrated ash plantain gained a much higher level of acceptance than the other two vegetables. The lower and middle income groups expressed most interest in using dehydrated vegetables. It was also found that dehydrated vegetables scored higher among adults than among children. However, the study did not determine whether this was because of a lower level of acceptance of dehydrated vegetables among children or a lower level of acceptance of these particular types of vegetable among children. In general, respondents were able to detect a difference between products which had been processed in the capital, Colombo, and those produced in the rural areas. Almost invariably the preference was for the product made in Colombo. Respondents complained about poor texture and discolouration in the rural product. In addition the urban product was thought to have a superior taste. The dehydrated vegetables coming from the rural areas was often described as having a “sun taste”. This was indicative of a problem in the procedures and/or techniques employed by rural producers. The technical problems were not simply between urban and rural processing. There appeared to be variations in the texture of products processed from the same batch of fresh vegetables. It was thought that this variation in texture might be due to differences in varieties or stage of maturity of individual plants at the time of processing. This, however, was conjecture and further technical research had to be undertaken.

Thus, the research carried out helped decide which dehydrated vegetables should be launched initially and indicated which market segments

would most readily accept the product. The research also highlighted technical problems which had to be addressed before a full scale launch. If a product launch had been undertaken without this research it would almost certainly proved an expensive failure.⁵

Technical development is not solely a production activity. Marketing personnel are involved in conducting, or at least commissioning, product tests to contribute information on consumer needs, preferences and behaviour. From this stage technical personnel will want to use the prototype/trial formulation to assess the feasibility of producing the product, to arrive at the most cost effective method of manufacturing/processing and to estimate actual production costs. Marketing personnel will be interested in gauging customer reaction to one or more prototypes/formulations and will want to feed the results of these investigations back into the product development process.

Many comparative studies of product successes and failures have been conducted in an attempt to identify those factors which determine whether or not a product is successful in the marketplace. One of the earliest of these studies was Project SAPPHO⁶. The most important discriminators between successful and unsuccessful product innovations were:

1. understanding of user's needs
2. attention to marketing
3. efficiency of development
4. effective use of outside technology, and
5. seniority and authority of the managers overseeing the new product development process.

Thus, Project SAPPHO drew attention to the importance of allowing customer needs to direct the technical development of new products. At the same time, the study emphasised the need for organisations to tightly control the efficiency of development activities whilst remaining open to making use of technologies and technical facilities belonging to other organisations. Interestingly, also among the leading success factors was the involvement in the product development process of high ranking managers. Senior managers are able to make high risk decisions and to commit the organisation's resources. Moreover when senior management is assigned to new product development projects it is a signal to both those within the organisation and to external parties of the importance it attaches to innovation.

Market testing

The main aim of test market studies is to provide a real-world, in-market exposure for evaluating the product and its marketing programme. In essence the marketing manager is taking a proposed national programme, with all of its separate elements, and evaluating them in a smaller, less expensive situation. He/she is seeking to determine whether or not the potential profit opportunity outweighs the potential risks by a considerable margin.

Although more often associated with consumer markets, test marketing can be applied to industrial markets. For example, new forms of packaging could be test marketed with food manufacturers and processors; agrochemicals can be tested among farmers; and innovative bulk handling systems for grains can be tried out among elevators. Capital goods are less amenable to test marketing since their markets are likely to be geographically dispersed. However, it is also the case that not all consumer products can be effectively test marketed. For example, it would be dangerous for manufacturers of consumer durable goods to engage in test marketing. If the product failed the firm would be committed to providing a certain level of service and spare parts to a product which had been withdrawn or the corporate image would be adversely affected.

Ideally a test market should be capable of providing information on such factors as:

- market share of product and/or volume estimates
- who buys the product, how often and for what purpose
- from where purchases are made, and at what price
- what response was made by competitors
- what effect the new item has on existing product lines or brands, including one's own.

Test marketing offers at least two important benefits:

- It provides an opportunity to obtain a measure of a product's sales performance under reasonably natural market conditions. Market share can be estimated and used as the basis of the decision as to whether or not the product is launched nationally.
- It provides an opportunity for management to identify and correct product or marketing strategy weaknesses before a national launch takes place.

Despite these benefits, certain issues need to be considered before making the decision to test market. To begin with test marketing is an expensive exercise. The product has to be manufactured, as does its packaging, and because this is on a limited production run, economies of scale are not possible. Moreover there are the costs of the marketing programme itself. There is also a series of indirect costs which should be considered. These can be categorized as (1) opportunity costs - e.g. revealing a new product idea to a competitor (2) exposure costs - the name of the company is exposed along with the brand, and (3) internal costs - diversion of employee time and activities (rarely taken into account when the cost of test marketing is estimated). Whether to test market is a trade-off between reducing uncertainty by collecting additional information at considerable direct and indirect cost and immediately introducing the product nationally by avoiding any delays.

There are 5 factors which should be considered when deciding on the benefits and disadvantages of test marketing:

- If the costs and risks of product failure are low, then a national launch should be considered. Alternatively, high costs coupled with great uncertainty suggest the test market approach is best.
- If in setting up pilot production runs for a test market the company incurs the great part of the investment costs necessary to supply the national market, then it would probably be as well to go straight to the national launch stage.
- Management must consider the likelihood and speed with which competitors will be able to copy the new product and attack its national and/or foreign markets.
- In addition to the investment in plant and machinery which may be involved, every new product launch is accompanied by a substantial marketing investment that varies with the scale of the launch. Typically, new product launches call for heavy expenditure on promotion; they require sales-force time and attention; and they need shelf-space in wholesale and retail outlets, sometimes gained only at the expense of the space already given to the company's existing products. Moreover, if the new product fails, such costs as rebating and reclaiming unwanted stock from customers must be incurred, along with write-off costs of dealing with unwanted and unsaleable materials and packaging.
- Management must also take into account the possible damage that a new product's failure can inflict on the company's reputation, which is a real if not quantifiable cost.

After the decision to test a proposed new product or product line extension, a number of basic steps should be followed to achieve the desired results with minimum cost and time. The basic steps about to be outlined should be followed in sequence and no steps should be omitted.

Step 1: Define the objectives: Clearly, there is a relationship between the type of new product that is to be tested and the risks and rewards associated with ultimate market failure or success. The product being tested could be:

- a “me-too” product - essentially the same as other brands already on the market
- an improved product - an improvement over other brands/products currently on the market
- a category extension - a “new” type of brand as compared to other brands currently offered to the market e.g. a new kind of instant coffee which doesn't rely on the use of potentially hazardous chemicals to decaffeinate it
- a truly innovative product - the product under test may be radically new, bearing no relation to existing products or brands e.g. a food additive which prevents the fat in foodstuffs from being absorbed by the human body.

If the proposed new product entry is a “me-too” item, its introduction will require far less cost and time than if the product were entirely innovative and, therefore requiring time and marketing effort to gain market acceptance. Typical test market objectives are to forecast such key market indicators as unit sales, market share and revenues. Frequently, these indicators are supplemented by estimates of inventories and measures of shelf location, facings, price variation and distributor's/retailer's promotional activity. In effect, test markets measure what is happening in the marketplace at the retail level.

Step 2: Plan strategy: Once management has decided how the new product entry will be manufactured, consideration turns to how it will be promoted in the marketplace. With a “me-too” product, advertising is critical, since in large measure positioning, strategy and execution determine its market success or failure. On the other hand, with an innovative product promotional activities such as free samples and money-off offers are likely to be more effective. Getting people to try new products is a crucial step in the success of innovative products.

Media selection is another important part of developing an overall testing strategy. For example, if the national media plan for a new product uses magazines, then the test market area must have a representative sampling of printed media so that the necessary projections can be made.

Step 3: Determine methodology: With test marketing, management attempts to manipulate certain marketing elements whilst holding others constant in a real-world environment. There are three main methods from which to choose. These are:

Simulated test market	This Involves various groups of preselected respondents being given product samples and then interviewed and their behaviour monitored. In addition, respondents may be exposed to various media messages in a controlled environment. The objective of simulated test markets is to project how the new product would perform if launched nationally.
Standard test market	The company's own sales force would be responsible for distributing the new product in the selected test market areas. Sales force personnel would stock the shelves and return at periodic intervals to restock and count movement.
Control test market	The entire test market project is handled by an external agency. The agency guarantees distribution of the new product in stores that represent a predetermined percentage of the market, hence the term controlled panel store. They provide warehouse facilities and use their own field representatives to sell the product and are responsible for shelf-stocking and counting product movement. Because the guaranteed distribution allows marketing managers to begin advertising and promotion two weeks after a retailer agrees to stock the new product (instead of the usual 60–90 days it takes to go through regular distribution channels), faster readings are possible.

Step 4: Select markets: One of the most important decisions to be made is where to test the marketing programme. The normal practice in test marketing is to choose medium-sized cities

that in all important respects reflect national demographics, industry/business, media and distribution. There appear to be four overriding factors to consider in selecting a test market:

Number of markets to use	The more markets that can be used the better. Results will be more reliable and more variations can be tested. Geographically dispersed markets should be used where practicable. When testing an existing product, the general approach is to use a "matched market" strategy in which two markets are chosen for their similarities on several selection criteria such as demography, geography, climate, and competitive brand use.
Size of markets to use	Reliability and cost are the key: selected markets should be large enough to give reliable results, but not so large as to be prohibitively expensive. The standard practice is to use multimarkets comparable in demographics that collectively represent about 2–3% of the population.
Markets with representative demographics	Several criteria are important, for example, family size, age levels, income, buying habits, etc. In general the test market environment should be consistent with the environment within which the new product will have to compete when rolled out.
Markets that are isolated	The test market should be relatively isolated in terms of media and physical distribution so as to minimise waste and maximise security. That is, as far as possible cities which share or overlap their media and distribution should be avoided. Otherwise, marketing effort can be going into an area in which the product is not available.

Step 5: Execute the plan: Test marketing must be carried out as a legitimate test. There should be no undue attempt to guarantee success. In this regard there are two tendencies to guard against. First, over-attention can cause the new product to do better in the test market than it will when rolled out nationally. Cadbury's, for example, had a biscuit product failure which was due to their inability to produce on a commercial scale the product which had done so well when manufactured in their pilot plan. Another form of over-attention is where sales personnel are instructed to give the new product a level of support that they will be unable to sustain in the long term because they have a large number of products to promote. Thus over-attention can take several forms and can occur in both production and marketing.

Secondly, care should be taken to avoid placing undue emphasis upon initial repeat purchase incidence. Repeat purchase of a new product is critical to its success. Frequently, the temptation is to abort a test when the initial repeat purchase cycle incidences look good. Whether good or bad, repeat purchase rates should be examined carefully to detect the "cause" (such as special deals or high value redemption coupons, the media mix, advertising etc.). The test should be allowed to continue until the results begin to stabilise. Moreover, it has to be borne in mind that test marketing is not simply about quantification of markets. Cadbury's experience with the failed biscuit product serves to underline the fact that analysis has to be qualitative as well as quantitative. It is difficult, if not altogether impossible, to establish why consumers do or do not buy a particular product without recourse to qualitative methods of analysis.

Step 6: Evaluate the results: There are four critical areas to keep in mind when test market results are being evaluated. These are:

Customer awareness levels and their attitudes towards the product or service	The key questions here are: Do potential customers know the product exists? Do they know what the product does? Do they know how much the product costs and where to get it? Do they believe the unique selling proposition? Do they have any interest in acquiring the product?
Purchase measures	Another key factor in evaluating the test is trial and repeat purchase incidences. Purchase measures, particularly trial, indicate whether or not the advertising and promotion plan has worked.

The effect on competition	It is very important to monitor the actions of competitors during the testing period. As indicated earlier, competitors can act to distort the results of a test market by offering sample products, price reductions, coupons, and the like.
The effect on other products	Care has to be taken to avoid cannibalising the sales of other products or brands belonging to the innovating organisation. That is, market share may simply be taken from the company's established lines. Where this occurs thought has to be given either to repositioning the product or, if this cannot be done, withdrawing the new product.
Decision making	After evaluating test market results, the organisation may decide to proceed and launch the product, go back to R & D and request product improvements or to abort the entire project.

Commercialisation

Assuming that the market test is positive, the full-scale production, introduction and marketing (i.e. commercialisation) of the product can take place. The company has to decide whether, in the light of all available information, it should be commercialised. Commercialisation commits the company to spending sizeable sums of money. A full scale manufacturing facility has to be acquired. The actual size of that facility will depend upon the forecasted sales of the new product and the amount of faith that management has in that forecast.

To protect itself against the risks of over-production in relation to actual demand, a food company might elect to build plant capacity below that of projected sales. The danger is that if the company stimulates a demand which it cannot then satisfy, it can alienate distributors, retailers and/or consumers. Moreover, competitors may be in a position to act quickly and take advantage of the surplus demand. Another strategy is for the food company to pay another food processor, with excess production capacity, to manufacture the product on their behalf. However, this prevents the innovating company from having as much control over the new product in terms of quality standards, changes in production runs, etc. A more common practice, among larger food companies, is to farm out their well established products to other manufactures. This makes room for the new product within the company's own production facility and the necessary care and attention to getting it right can be given.

The third production alternative is for the company to place confidence in its forecast and test markets to the extent that it invests in the necessary production facilities. This is the most costly option but gives the greatest level of control and flexibility.

Another major cost of commercialisation is marketing. Radically new products require heavy investment to make consumers aware of the product, adequately convey its unique selling proposition and get consumers to try the product.

The main marketing management tasks in the commercialisation phase are:

1. The development of a detailed marketing plan.
2. Allocation of authority and responsibility for carrying out the marketing plan and managing the product.
3. A detailed timetable for launching the product. Product success depends upon timing and coordinating.
4. The design and implementation of an information system to audit and report on the product, its progress and problems. With a steady flow of management information, the product manager can adjust and modify the marketing mix.

In some organisations there is a tendency for new product development programmes to develop a momentum of their own, making it difficult for management to abandon them before it has been conclusively proved that they should never have got as far as they have. Some managers will have staked their reputations, and some their careers, on the success of this or that new product

idea and, as a consequence, will push it relentlessly even when the symptoms of failure have become apparent. The organisation to which this manager belongs is sometimes also motivated to sustain the development of new products when indications are that the more prudent decision would be to terminate the programme. The further down the line that a new project gets, the higher the amount which the organisation has invested and the stronger the tendency to ignore the warning signs of failure and to continue in the hope that a product launch will enable it to recoup at least part of the investment.

The adoption process

Any discussion of the new product development process would be incomplete without consideration of how customers learn about new products, try them and either adopt or reject them. Clearly, an understanding of these processes is vitally important to marketers seeking to build an effective marketing strategy.

Case 4.2 Sowing Seeds Of Discontent In Uganda

The path between product development and adoption is strewn with obstacles, as those involved in the Ugandan Seed Development Programme can testify.

The certified seed programme of the early 1980s developed hybrid seeds suitable for Ugandan growing conditions. After multiplying these seeds attempts were made to persuade farmers to use this certified seed in place of farm-saved seed. The first obstacle was that the farmer could not immediately see the difference between certified seed, which would cost the farmer money, and farm-saved seed. He was being asked to buy a product, on trust, which looked the same as the farm-saved seed that he obtained 'free-of-charge' or could purchase for a nominal sum from other farmers. The management of the Seed Development Programme decided that in order to help farmers distinguish between certified seed and farm-saved seed sold by traders and other farmers they would give the certified seed a distinctive package and also dye the seed blue. Unfortunately, unscrupulous traders followed suit and put their farm-saved seed as well as hybrid seed from Kenya, not well suited to Ugandan conditions, into similar packaging and dyed the seed blue.

This deception proved a great set-back to attempts to persuade Ugandan farmers to invest in certified seed. Their frequent experience was that the certified seed which they had been persuaded to buy performed no better, and often worse, than seed saved from their own crop. A considerable amount of time and project resources had to be spent restoring the farmers' confidence in certified seeds.⁷

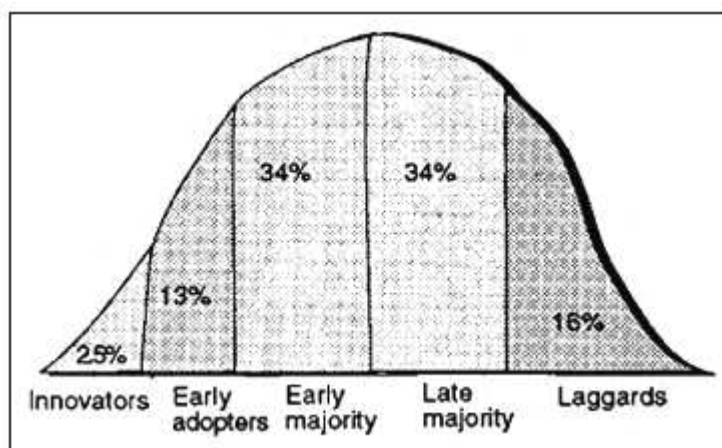
Rogers and Shoemaker⁸ have contributed much to theories of adoption and diffusion, including the concept of the *early adopter*. This theory holds that just as some firms are more innovative than others, so some individuals are more ready to try new products than others. Its two other

main premises are:

- Early adopters have characteristics which distinguish them from others.
- Early adopters tend to be 'opinion leaders' and are therefore able to play a major role in promoting the new product to others.

It has been suggested that an adoption curve⁹ like that in figure 4.7 is representative of the way new products diffuse through a population or market segment.

Figure 4.7 The adoption curve



As can be seen, the adoption process is represented as a normal distribution when plotted over time. In the earliest stages it takes time for the market to become aware of the product and only the more adventurous consumers prove willing to try that which is new. These are the innovators. It is hypothesised that this group will represent around two percent of those who eventually buy the product. The next wave of acceptance comes from early adopters.

Rogers and Shoemaker⁸ suggest that the 5 adopter groups differ in their value orientations. Innovators are perceived by Rogers to be *Risk-takers* who are keen and able to try that which is new. Early adopters tend, according to Rogers, to be opinion leaders within their communities. They adopt innovations fairly early on but do so with some care and are then in a position to influence the adoption behaviour of others. Marginally more deliberate in their decision as to whether or not to try the product are those classified by Rogers as the *early majority*. The early majority adopt certain innovations before the *average* person but they are rarely leaders. The late majority are rather more sceptical or averse to risk than those mentioned in the foregoing groups. They wait until the product or perhaps its technology - is in some way proven. Their proof usually takes the form of positive experiences on the part of those who have earlier adopted the product. Roger's final group are termed the laggards. Laggards are less open to change, are more traditional and usually adopt the 'innovation' when it has taken on a measure of tradition itself.

Case 4.3 The Non-Adoption Of Grain Dryers In the Philippines

As grain yields have increased in the Philippines with the introduction of modern technologies and husbandry practices, so has the need for an increase in capacity to dry grain. Grain deteriorates rapidly if its moisture content is too high.

In the Philippines rice is the most important grain and the main crop is ready during the wet season. Paddy which remains wet for too long produces poor milled rice and this results in low producer prices and dissatisfaction among

consumers. Studies were conducted on the acceptance of a 2 ton, flatbed mechanical dryer, designed by the University of the Philippines. The research showed that constraints to the widespread adoption of the flatbed dryer were more socioeconomic than technical.

Among those who had actually tried the dryers, the principal constraints to continued use were the high fuel cost, the additional labour inputs required and the poor quality of dried paddy. Users complained that the paddy produced a dull and brittle grain when milled. Due to the brittleness recovery rates were low.

Thorough technical tests on the dryers suggested that this should not be the case. It was concluded that the problem was not poor technical design of the dryer but a combination of wrongly adjusted dryer components, poor initial quality of the paddy before drying and a generally low level of knowledge among dryer operators and, therefore, more attention had to be paid to training potential dryer users. Some respondents complained about the limited capacity of their dryer. This too could be seen as a problem of inadequate training since dryers of various capacity could be purchased, but users often bought a model which did not meet their throughout requirements.

Respondents who had never become dryer users reported a variety of socioeconomic reasons for their apparent lack of interest in this type of equipment. Some had simply been discouraged by feedback from disillusioned dryer users. Many farmers and millers did not have the volume of paddy necessary to make the dryer an economic investment. Many smallholders engaged in sharecropping arrangements. After harvest a substantial proportion of the farmer's crop would be passed to the landowner who had financed the production of the crop with the small amount remaining being used for household consumption.

Millers who were not dryer users either processed such small amounts of paddy that they could not justify the expense of the machine or had decided to avoid buying large amounts of paddy during the wet season so as to avoid the associated drying costs. Others simply did not have the space to accommodate a dryer in their premises. Some non-users were interested in having a dryer but just did not have the necessary capital. The research also revealed that there was a low level of awareness of the dryer amongst potential adopters.

Thus, it was concluded that the barriers to more widespread adoption of mechanical dryers were not technical deficiencies but socioeconomic constraints. The necessary conditions for the

adoption of the new technology were a sufficiently large volume of paddy to achieve economy of scale and a comprehensive training programme to enable users to select the right dryer for their business, and to operate it efficiently and effectively.¹⁰

Clearly it is the innovators and early adopters which would seem to be the prime targets for a firm launching a truly *new* product. However, no matter how intuitively appealing Rogers' hypotheses regarding the separable characteristics of these 5 groups, no one has established the existence of traits unique to innovators or early adopters. Rather, empirical evidence suggests that individuals tend to be innovators in some respects and laggards in others. Hence, we encounter the housewife who is sceptical about the new methods of education which her children are being subjected to, but is the first in the neighbourhood to experiment with the dishes she presents on important social occasions when, if she makes a mistake, it could all go badly wrong.

Thus, the challenge for companies is to identify the characteristics of 'early adopters' in its product areas. Fortunately, there are some research findings to encourage the manufacturer in this pursuit. There are studies which appear to have shown that, for example, innovative farmers tend to be better educated than their contemporaries. Other studies have concluded that innovative housewives are more gregarious and of a higher social status than their not so innovative contemporaries. Rogers⁹ put forward the following hypothesis about those who are quicker to adopt innovations:

"The relatively earlier adopters in a social system tend to be younger in age, have a higher social status, a more favourable financial position, more specialised operations, and a different type of mental ability from late adopters. Earlier adopters utilise information sources that are more impersonal and cosmopolitan than later adopters and that are in closer contact with the origin of new ideas. Earlier adopters utilise a greater number of different information sources than do later adopters. The social relationships of earlier adopters are more cosmopolitan than for late adopters, and earlier adopters have more opinion leadership."

Whilst the conclusions reached by Rogers offer some hope to marketers, there remains the problem of measuring some of these 'indicators'. For example, there are no reliable indices of phenomena such as gregariousness, cosmopolitan outlook and degree of opinion leadership.

The effect of product characteristics on the rate of adoption

A widely accepted hypothesis is that the characteristics of an innovation affects its rate of adoption. Five characteristics have been suggested as being particularly influential in determining the rate of adoption of any innovation.

Relative advantage	The degree to which the product is perceived to be better than alternatives will directly influence the speed of adoption. Thus, the truly innovative product, which offers a meaningful benefit to consumers, is likely to gain widespread adoption more quickly than a "me-too" product. Hence the level of acceptance of long-life milk among rural populations since the product has the advantages of longevity, hygiene and convenience (i.e. no need to own a refrigerator) over fresh liquid milk.
Compatibility	Any innovation which closely matches the target audience's values and experiences is better placed to be accepted. When microwave ovens were first introduced they met resistance because of traditional values and experience. When International Harvester launched the Axial Flow Combine Harvester it met strong resistance because of the new machine's unconventional style of operation. The technique employed when operating a conventional combine harvester is to ease slowly into the crop and to gradually gain speed as the material feeds through the machine. The technique for operating an axial flow harvester is the

complete opposite. That is, the axial flow combine harvester enters the crop field at high speed. For many combine operators the change to the new technique was not easy to make since it was incompatible with practices that had become intuitive. It simply did not 'feel right' to operate a combine harvester in the way required by the axial flow machine and the operators became a serious barrier to adoption.

Complexity Where the innovation is relatively difficult to understand or use adoption tends to be slow. Hence the slow and difficult progress achieved by extension workers who sought to encourage peasant farmers in Peru to adopt agrochemicals. The machinations of chemistry were, and probably remain, a mystery to those farmers. Since they could not understand how or why it should work, the farmers were consequently slow to take up the practice of applying expensive powders, liquids and pellets to the land.

Divisibility Innovations which can be tried on a limited basis thereby limiting the risk in adoption diffuse much more rapidly. In this respect, agrochemicals and new seed varieties have an advantage in that a farmer can apply them to a part of his/her acreage and observe the results.

Ease of communication The extent to which the results of using an innovation are observable and/or describable to others greatly influences the rate of adoption. Thus, since fungicides take effect over time and their chemical action is incomprehensible to most peasant farmers, their adoption rates tend to be slow. Conversely, the concept of fermentation of milk is well known, even amongst rural peoples, and so the concept of long-life milk is readily understood among both urban and rural populations.

It would be misleading to suggest that these 5 factors are the only influences on the rate of adoption; initial cost, maintenance cost, risk, uncertainty and social approval are mere examples of other influential factors. However, the 5 outlined would appear to be central considerations in the case of all innovations.

Case 4.4 Genetically Engineered Food: The Future Has Become The Present

It may be helpful to indicate where new product development in foods is heading. In doing so, it will be seen that the pace and direction of innovation is such that companies cannot afford to be complacent.

Genetically engineered food will soon be in the supermarkets of America and will be available to consumers around the world soon afterwards. America's Food and Drug Administration has already consented to bioengineered foods being sold in retail outlets and without any special labelling. Thus, the consumer may not even be aware that a particular food is bio-engineered since it will, in appearance, look identical to items with which he/she has long been familiar. Already in the pipeline are tomatoes that decay only very slowly because a particular gene has been reversed, potatoes that have had chicken or silk genes added to resist disease, catfish that have been injected with trout genes to promote growth, soya beans that can be treated with herbicide-fighting bacteria and experiments are on-going in which maize with fire fly genes. Also under development are potatoes which soak up less fat when fried, wheat that resists pests and oil producing plants that fend off insects by

themselves.

These might seem like something from science fiction but they are a reality. Of course, there are doubts. Some authorities are concerned that not enough is known about the longer term effects of genetically altered foodstuffs on the human body. Others are concerned that we may not be capable of anticipating the effects of particular combinations. For instance, a groundnut gene might be added to a tomato to increase the protein level. Without appropriate labelling this combination could prove harmful to the very large number of people who are allergic to peanut. There are also moral and religious issues yet to be resolved. An example is that of someone who is vegetarian and has difficulty in establishing whether a fruit or vegetable has been enhanced, in some respect, by the addition of an animal gene. Similarly, those whose religion prohibits the consumption of pork would, presumably, be unhappy to later find that some permitted food contained the gene of a pig.

Notwithstanding these concerns, bio-engineered foods are now a fact of life. These illustrations of what is on the horizon serve to underline the old adage, "The only thing you can be sure about tomorrow, is that it will be different from to-day." Innovation is an on-going process which continues along a linear path of development for a while but then takes a new and often wholly unexpected turn in its direction.

Summary

Whilst new product innovations carry a substantial level of risk, due to the high failure rate of new products, business enterprises which complacently continue with their existing portfolio of products are, in the long run, likely to struggle to sustain profitability and growth. This becomes apparent when it is recognised that products have a life cycle with an infancy, a period of fast growth, before entering their mature phase, but ultimately falling into decline and coming to an end. However, commercial enterprises that do introduce new products must strive to maintain a balance between innovative products, which are likely to be net cash absorbers, and more mature products with the capacity to generate cash.

At each stage, as innovations move from an idea to a marketed product, the costs for the innovating organisation increase substantially. Therefore, innovators would be well advised to implement a procedure for new product development that provides them with the opportunity to abandon a potential innovation at each stage of that process if the information available suggests that the likelihood of failure outweighs that of success. The marketing literature provides a template of just such a procedure: idea generation, idea screening, concept testing, business analysis, technical development and test marketing. Each of these discrete stages in the new product development process provides the prospective innovator with the information necessary to adjudicate between continuance and abandonment of the prospective innovation.

The study of the new product development process is not only about innovation, it also involves seeking an understanding of the adoption and diffusion processes. Research suggests that adopters of an innovative product can be classified as innovators, early adopters, the early majority, the late majority and laggards. Innovators tend to be risk-takers, the early adopters are likely to be opinion leaders within their community, the early majority deliberate more over their acceptance or rejection of a new product, the late majority are rather more averse to risk and

laggards are less open to change, taking on an 'innovation' when it has become somewhat traditional itself. Clearly then, the key to market penetration for a new product is to identify and persuade likely innovators and early adopters of its benefits, bearing in mind that individuals will be innovators/early adopters with respect to some types of new product but late adopters of others.

It is widely held that the inherent characteristics of an innovation greatly influence whether it is adopted and the rate of its adoption. The key characteristics appear to be the innovation's relative advantage over alternative products or technologies, compatibility with existing practices and values, the complexity of the innovation, the extent to which it can be tried on a limited basis and the degree of ease with which both the characteristics and benefits of the innovation can be communicated.

Key Terms

Adoption process	Concept tests	New product development
Boston matrix	Diffusion	Niche markets
Cash absorbers	Growth-share matrix	Product life cycle
Cash generators	Idea generation	Product portfolio analysis
		Test marketing

Review Questions

1. What do concept tests measure?
2. Name the 4 categories of products to be found in the Boston portfolio matrix.
3. Why might it be disadvantageous having a number of products whose sales are increasing rapidly?
4. What sort of information might a test market provide?
5. List the 5 aspects of a new product which greatly influence its rate of adoption.
6. List the 6 steps of a test market.
7. Name 3 possible sources of new product ideas internal to an organisation.
8. What are the 4 reasons why concept tests sometimes perform badly in predicting market performance?
9. Name the 5 categories of adopters of innovations hypothesised by Rogers.
10. What are the main tasks of marketing managers prior to the launch of a new product?

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Chapter 5

Buyer Behaviour

Buyer behaviour may be defined as the activities and decision processes involved in choosing between alternatives, procuring and using products or services. It is sometimes suggested that buyer behaviour is only of interest to marketers because they wish to influence and change it. Such a statement invariably raises the question as to whether marketing is an ethical profession. Intuitively, it seems wrong that any organisation should seek to manipulate people's behaviour. The truth is that marketing may promote a given product, service or practice but unless the target audience perceives that product, service or practice to be relevant to their needs then they will never try it. Moreover, unless their first time trial of the product, service or practice is positive, they will not try it a second time. The purpose of studying buyer behaviour is to better meet the needs of customers. Only by doing so will the marketing enterprise continually and consistently meet its own needs.

Chapter Objectives

This chapter seeks to assist the reader in:

- Developing an understanding of the internal and external influences which shape the behaviour of both consumer and organisational buyers
- Identifying the discrete stages of the buying process undertaken by consumers and organisational buyers
- Appreciating how an understanding of buyer behaviour can be used in market segmentation and target marketing and
- Differentiating between types of organisational markets

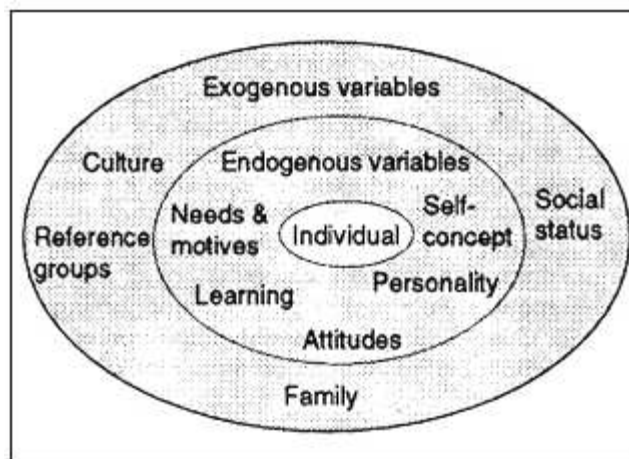
Structure Of The Chapter

The early part of the chapter explores the psychological and social influences which impinge upon buyer behaviour before describing a model of the consumer buying decision process. Each of the five steps of this model is explained in a little detail. This is followed by a discussion of one of the principal applications of buyer behaviour theory, i.e. the segmentation of markets and the selection of target markets. Consideration is then given to buying behaviour within organisations. Both the characteristics and the tasks of organisational buyers are described.

The influences on buyer behaviour

The behaviour of buyers is the product of two broad categories of influence; these are endogenous factors (i.e. those internal to the individual) and exogenous factors (i.e. those external to the individual). The most important of these two categories of factors are depicted in figure 5.1 and elaborated upon in the following sections of this chapter.

Figure 5.1 Endogenous and exogenous factors impinging upon buyer behaviour



Whilst these are variables that are largely outside the direct control of marketing managers, an understanding of them can be harnessed to great effect. The discussion that follows goes beyond merely describing the nature of the principal factors which shape behaviour to explain the relevance of each factor to marketing strategy.

Exogenous influences on buyer behaviour

Factors which are external to the individual but have a substantial impact upon his/her behaviour are social and cultural in nature. These include culture, social class or status, reference groups and family membership.

Culture

Culture is perhaps the most fundamental and most pervasive external influence on an individual's behaviour, including his/her buying behaviour. Culture has been defined as:

“...the complex of values, ideas, attitudes and other meaningful symbols created by people to shape human behaviour and the artifacts of that behaviour as they are transmitted from one generation to the next.”¹

Three key aspects of culture are brought out by this definition. First, culture is created by people. The behavioural patterns, ideas, economic and social activities and artifacts of a people's forebears shapes the culture of today. Second, culture is enduring. It evolves over time but is stable in the short to medium term and is in fact passed, largely intact, from generation to generation. In particular, the values of the society tend to be enduring. Third, cultural influences have both tangible and intangible results. For instance, language and patterns of speech are products of culture and are observable. Basic beliefs and values are also the outcome of the cultural environment within which a person lives but these mental phenomena are intangible outcomes. Culture is the mechanism by which each society evolves its distinctive behavioural patterns and values and transmits these to subsequent generations.

Without a knowledge of the culture into which a product is being marketed mistakes can be made and opportunities missed. Nestlé's launch of Nescafé instant coffee, mentioned elsewhere in this chapter, is a case in point. The cultural norms of the day were rather different. The prevailing values dictated that good coffee took time to prepare and that shortcuts in the preparation of foods and beverages reflected laziness on the part of the user and carelessness with the household budget since convenience foods invariably cost more than 'natural' foods. With a better understanding of the culture of the day it is possible that Nestlé could have avoided the initial rejection of the product by a significant proportion of the target market.

Creative marketers who do have a knowledge of cultural norms and values can profit by aligning product benefits and characteristics with these social standards. Over the past ten to fifteen years people in Western Europe and North America have become increasingly concerned about the amount of fat in their diet and the adverse health effects resulting from high cholesterol levels. The message to reduce the fat content of meals has been widely accepted. It is no longer

culturally acceptable to maintain a high fat diet. An individual's family doctor will disapprove, employers who provide health schemes disapprove, 'good mothers' don't allow their children to consume high fat foods in more than modest amounts. A person's friends, neighbours, colleagues and other personal acquaintances are likely to communicate their disapproval, in one way or another, if that individual is known to continue with a high fat diet. This has created a marketing opportunity for producers of low fat meats. The official grading systems for meats in Western Europe and North America financially penalise meat with a high fat content and low fat meat fetches a premium price in retail stores. This cultural change has also opened up market opportunities for ostrich producers in Australia, Namibia, South Africa, Swaziland and Zimbabwe. Ostrich meat is almost fat free and so enables those who are fond of meat in their diet to continue consuming meat without increasing their cholesterol levels. Such is the increase in demand for this type of meat that ostrich farming in the USA, where previously it was barely known, and in the United Kingdom, where it was not previously known at all, is growing fast.

Within any particular society the culture will comprise of a number of subcultures. That is, there will be various racial, ethnic and religious groups. Each, to some degree, will have distinct beliefs and values. Subcultures are of interest to marketers not least because it is a useful variable to be used in segmenting a market.

Social status

Social class or social status is a powerful tool for segmenting markets. Empirical research suggests that people from the same social group tend to have similar opportunities, live in similar types of housing, in the same areas, buy similar products from the same types of outlets and generally conform to similar styles of living. At the same time, whilst people within the same social category exhibit close similarities to one another, there are usually considerable differences in consumption behaviour between social groups. The variables used to stratify a population into social classes or groups normally include income, occupation, education and lifestyle.

The importance of status, to marketers, is not confined to its potential as a basis for market segmentation. Bennett² says that:

"Every status has its roles - a set of proper behaviors specified by culturally defined rules..... A group influences its members primarily through the roles and behavioral norms expected of them."

Thus, the behaviour of an individual, on a given occasion, will relate to the social role which he/she is acting out. For instance, rural peoples sometimes defer to the judgement of the biggest landowner in the area and thereby ascribe a role of leadership to that person. This landowner will act and behave in accordance with the status of community leader when the occasion so requires. On other occasions the same individual will pursue his own interests and behave as a landowner. Moreover, each of the roles assumed by the landowner will be played in accordance with the norms established by the group which confers and sustains his leadership office. That is, the landowner will mould his behaviour to fit the expectations the local community (i.e. group) has of him as a community leader.

The marketer needs to know what role a person of a given status is playing and what is expected of that individual by the group which has conferred the status upon him/her. Such an understanding can significantly affect the marketing strategy employed with respect to that category of customer. Abdulsalami's³ experience of marketing herbicides to Nigerian maize growers is a case in point. The Ilorin Agricultural Development Project's (ADP) attempts to encourage farmers in its region to adopt herbicides only became successful when it targeted promotional efforts on tribal chiefs. The ADP appealed to the paternalistic role of the chiefs who were expected to discern what was in the best interests of their people. The promotional material sensitively reminded the chief of his paternalistic role and subtly connected this with the benefits to his people of herbicide application. No attempt was made to appeal to the chiefs in their own right as owners of substantial areas of land since the objective was to achieve widespread adoption of herbicides rather than to exploit the profit opportunities arising from successfully penetrating this wealthy market niche.

Reference groups

People are social animals who tend to live in groups. The group(s) to which a person belongs exerts an influence upon the behaviour, beliefs and attitudes of its members by communicating norms and expectations about the roles they are to assume. Thus, an individual will refer to others with respect to: 'correct' modes of dress and speech; the legitimacy of values, beliefs and attitudes; the appropriateness of certain forms of behaviour, and also on the social acceptability of the consumption of given products and services. These "others" constitute reference groups. Reference groups provide a standard of comparison against which an individual can judge his/her own attitudes, beliefs and behaviour.

An individual need not belong to a given group in order for that group to exert an influence upon his/her behaviour. Shibutani⁴ has identified three distinct reference groups:

- a group to which an individual belongs (also known as a peer group)
- a group to which an individual aspires, and
- a group whose perspective has been adopted by the individual

A small scale miller will identify with other millers whose operations are similar in size and technology and will feel that he/she belongs to this group. He/she may have ambitions to become a larger scale operation employing more sophisticated milling technology and so aspires to membership of a group recognised as industrial millers. At the same time, the small scale miller may adopt the views and opinions of a grain trader's association since he/she believes that when this group voices an opinion about trends or proposed changes to the grain trade their arguments are well articulated, forceful and normally in the best interests of small scale millers as well as grain traders. The common factor between these three groups is that they each provide a frame of reference for the individual. As the example of the small scale miller illustrates, an individual can have several reference groups.

Case 5.1 The Collective Wisdom Of The Pathan

The Agricultural Light Engineering Programme (ALEP) was a joint initiative between the Swiss aid agency, Intercooperation, and the Pakistan government. Situated in North West Frontier Province (NWFP), ALEP existed to facilitate the development of appropriate agricultural machinery.

NWFP is mainly populated by Pathans. Pathan society is characterised by a high degree of social conformity and a pronounced hierarchical structure. ALEP quickly discovered that no farmer would adopt a new tool or machine without the explicit approval of both his peer group and the local patriarch (i.e. the village headman or biggest landowner). Indeed, ALEP found that there was little point in undertaking market research based on personal interviews since farmers would invariably want to consult with family, friends and neighbours before voicing an opinion. Instead, ALEP resorted to conducting group interviews in the village hudjra (men's meeting place).

Reference groups can have a significant influence on patterns of product use and consumption. In China, the practice of purchasing fish whilst it is still alive is so deeply ingrained that the marketing of frozen fish has barely been established. Certain norms and values run so deep in a reference group that it is usually counter-productive to challenge them. In other instances, reference groups have only the weakest influence on buying behaviour. The key difference

appears to be the extent to which a product is used or consumed publicly. That is, if the product or brand is evident to those within the reference group then that group's influence is likely to be stronger with regard to purchasing behaviour.

Families as reference groups

The family is another group which influences the behaviour of individuals including buying behaviour. Two types of family may be distinguished from one another, the nuclear family and the extended family. The nuclear family is the basic family unit and describes the parents and immediate off-spring and/or their adopted children. The extended family includes all living relatives in addition to the parents and their children - grandparents, aunts, uncles, cousins, step-relatives and in-laws (i.e. relatives through marriage).

Families often form a Decision-Making Unit (DMU) with respect to household purchases, with each member performing a different role. For instance, the children may initiate the purchase by requesting a breakfast cereal in place of maize porridge, the male head of the household may decide whether a certain category of purchase may be made such as this more expensive type of breakfast food and the female head of the household may contribute to the decision to buy a processed breakfast food and decide which brand and from which retail outlet it is to be bought. Where the extended family becomes involved in a purchasing decision the DMU becomes larger and the roles of family members more diverse.

When marketing to families it is essential to know which members play a role in certain types of decision and what role they play. Thus, for instance, the cereals manufacturer may target mass media advertising at children since they trigger a purchase whilst in-store merchandising and promotion is designed to appeal to the housewives or other female heads of household because they make the brand choice.

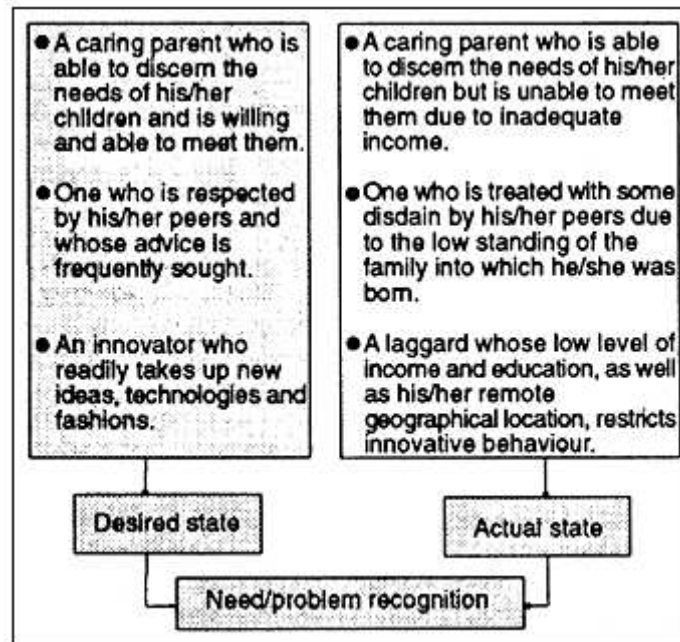
Endogenous influences on buyer behaviour

Endogenous influences are those which are internal to the individual. These are psychological in nature and include needs and motives, perceptions, learning processes, attitudes, personality type and self-image.

Needs and motives

The terms needs and motivations are often viewed to be interchangeable. However, there is a difference between them. When an individual recognises that he/she has a need, this acts to trigger a motivated state. Need recognition occurs when the individual becomes aware of a discrepancy between his/her actual state and some perceived desired state. The housewife who buys polished rice, or roller milled maize meal (actual state), who is made aware of the vitamin deficiencies in these products and is anxious to be, and to be seen to be, a wife and/or mother who looks after the health of her family (desired state) could be motivated to purchase less highly refined rice or maize meal. More formally, a need is a perceived difference between an ideal state and some desired state which is sufficiently large and important to stimulate a behavioural reaction. Figure 5.2 provides additional examples of differences between an ideal and an actual state which could motivate behaviour intended to reduce or remove differences between the two states.

Figure 5.2 Desired and actual states



It will be seen from this diagram that a range of factors can be responsible for activating needs awareness. These may be emotional, physiological or sociological in nature. Once the need is recognised then the individual concerned will form a motive. A motive may be defined as an impulse to act in such a way as to bring about the meeting of a specific need.

Case 5.2 How Marmite Spread Around The World

The renowned French bacteriologist, Louise Pasteur, identified yeast extract as a rich source of vitamin B in the mid-19th century. Since yeast extract was a waste product of the beer brewing industry, it had great potential as a cheap and nutritious supplement to the human diet.

Although discovered in France, Marmite (the French word for "stewpot") was not widely accepted either in France or in other parts of mainland Europe. In fact, it was British entrepreneurs who developed the market for Marmite. At home the product's nutritional value was heavily promoted with schools and hospital constituting the primary target markets. The manufacturers of Marmite also took advantage of Britain's colonial status to open up export marketing opportunities. Large shipments of Marmite went to British colonies in Africa, the Far East and other areas where it served to combat malnutrition.

The world has changed since Marmite was first introduced in 1902 and yet the product has remained popular. Marmite smells meaty and has a strong flavour but in fact it is entirely vegetable in content and is free of artificial flavourings. Whilst the nutritional value of Marmite is still promoted in developing countries, this is now a secondary selling proposition in developed countries. 'Taste', 'natural flavour' and 'additives free' have become the principal product attributes promoted to consumers in these countries' selling

proposition. Marmite's target markets have also changed over the years. Institutional and other organisational markets are no longer the focus of the marketing strategy. It is consumer households at which promotional campaigns are directed, and with some success. Each year, around 18 million jars of Marmite are sold around the world.

Marmite is a striking example of the power of creative marketing to take a by-product, that was once just thrown away, and turn it into a widely accepted product that has consistently mirrored the needs, motives, attitudes and self image of its consumers.

Perceptions

Whereas motivation is a stimulus to action, how an individual perceives situations, products, promotional messages, and even the source of such messages, largely determines how an individual acts. A basic definition of perception would be 'how people see things'. Berelson and Steiner⁵ have defined perception more formally as:

“...the process by which an individual selects, organizes, and interprets information inputs to create a meaningful picture of the world.”

Individuals can have vastly differing interpretations of the same situation. Whilst all human beings receive information through the same five senses-vision, hearing, smell, taste and touch the extent to which they attend to a piece of information, how they organise that information and how information is interpreted tends to differ. It differs because perceptions are a product of three variables: the physical stimuli (e.g. the product), the relationship between the stimuli and the immediate environment (e.g. a gradually increasing disposable income) and the psychology of the individual (e.g. a desire to be seen as someone who had graduated from humble economic origins to a person of economic stature). Moreover, individuals can hold widely differing perceptions, or interpretations, of the same stimulus due to three perceptual processes, i.e. selective attention, selective distortion and selective retention.

Selective attention: All people are daily bombarded by stimuli, both commercial and non-commercial. People simply cannot pay attention to all these messages and therefore they develop mechanisms to reduce the amount of information that they actually process.

People pay attention to stimuli which meet an immediate need. Thus a farmer within whose district poultry have been reported as suffering from Newcastle disease will be especially attentive to messages relating to the prevention of this affliction in his/her ostrich flock.

Selective distortion: Incoming information is often distorted to fit existing beliefs, opinions and expectations. Thus a wine connoisseur finds it easy to believe that French growers can produce a high quality Chardonnay but find it difficult to believe that Tanzanian growers can supply a Chardonnay comparable in its characteristics. Such beliefs are based on perceptions rather than experiences.

Selective retention: People forget all too easily. The information retained is generally that which supports the decision maker's existing attitudes and beliefs. Thus a consumer who is strongly loyal to a particular brand of maize meal will easily recall the benefits claimed for that product in advertising campaigns but will forget the claims made for a competing product.

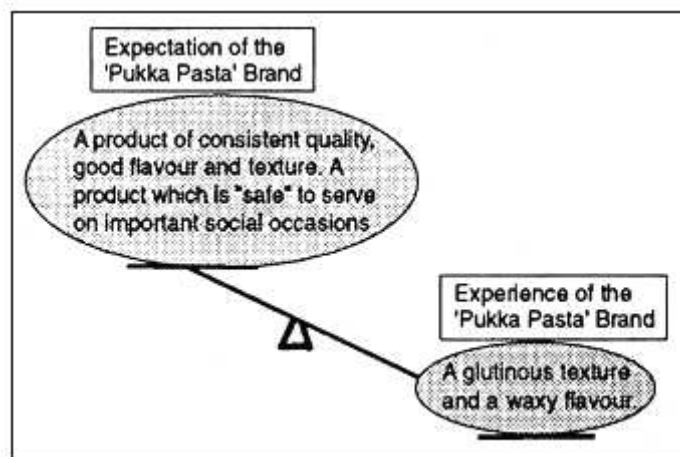
Learning

Much of human behaviour is learned. The evidence of learning is a change in a person's behaviour as a result of experience. Theory suggests that learning is the product of interactions between drives, stimuli, cues, responses and reinforcement. For instance, a farmer may have a strong drive towards increasing his/her productivity. A drive is a strong internal stimulus impelling

action. Drive turns to motive when it focuses upon a particular drive-reducing stimulus object. A farmer may see the adoption of a newly available two-wheeled tractor as a way of increasing his/her productivity to the extent required. The farmer's response to the notion of buying a two-wheeled tractor is influenced by the surrounding cues. A cue is a lesser stimulus that can determine whether an individual responds and, if so, how he/she responds. The encouragement of the farmer's neighbours, and perhaps his/her village headman, seeing the same type of tractor operating successfully on a neighbouring farm, receiving visits from salesmen and reading promotion literature are all cues that can impinge upon the farmer's impulse to invest in a two-wheeled tractor.

If the farmer buys the two-wheeled tractor and if he/she finds that it works well and improves his/her productivity to the level required, then learning is positively reinforced. If the buyer's experience does not match expectations then he/she is likely to suffer cognitive dissonance. Cognitive consistency theories hold that individuals strive to maintain a consistent set of attitudes and beliefs. When attitudes and beliefs about a product or service are challenged, due to its performance falling short of expectations, then the buyer experiences an uncomfortable psychological state and becomes motivated to redress the balance between expectations and experience.

Figure 5.3 Cognitive dissonance



The more major the purchase the greater the degree of dissonance experienced and the greater the ramifications for the supplier of the product or service. Referring to the hypothetical example of 'Pukka Pasta' in figure 5.3, the purchase is not major with respect to the cost of the purchase but may be considered 'major' from the buyer's perspective if he/she perceived the occasion to have been an important social event.

Market oriented organisations have policies which seek to deal with cognitive dissonance. No matter how much care an organisation takes in the manufacture and distribution of its products it is unlikely to achieve 'zero defects' all of the time. Consequently, some buyers will be dissatisfied at some point in time. The fact that this happens is less important than how the company deals with dissatisfaction. Many companies operate a policy of giving buyers a choice of having their money back or accepting a replacement product. The company does not look closely at each and every case where a product is returned but operates a blanket policy of assuming that the customer is always right. Some organisations are nervous of operating such policies because they feel it might be abused and result in a high number of returns and high costs to the enterprise. Others reason that their marketing task is not to sell a product but to create a customer. They are willing to bear the costs of a liberal customer complaints policy in the belief that long term profitability comes from establishing long term relationships with buyers.

Attitudes

Fishbein and Ajzen⁶ put forward a definition of attitudes which has become widely accepted. Their definition is:

“...a learned predisposition to respond in a consistently favourable or unfavourable manner with respect to a given object.”

This definition draws attention to four fundamental characteristics of attitudes. First it suggests that attitudes are enduring. They may change over time but they tend to be reasonably stable in the short to medium term. Second, the definition stresses that attitudes are learned from the individual's own experience and/or from what they read or hear from others. Third, that attitudes precede and impact upon behaviour. Attitudes reflect an individual's predispositions towards another person, an event, product or other object. A person may be either favourably or unfavourably predisposed towards an object; or they may be indifferent towards that object and therefore fail to display any behavioural pattern with respect to the object. Fourth, the chief function of attitudes is to facilitate the evaluation of objects. Attitudes are a generalisation and therefore the individual does not have to go through a process of evaluation tailored to each and every object. A consumer may be unfavourably predisposed towards locally manufactured dairy products because of dissatisfaction in the past with the quality of a specific type of cheese and with the shelf-life of fresh milk from the country's Dairy Produce Board. The negative experience of the consumer, which relates to very specific products, is readily transferred to all other dairy products marketed by the Board and the consumer exhibits a preference for imported dairy products. A common marketing tactic of enterprises that find themselves operating in an environment hostile to locally manufactured merchandise is to promote certain products as “Export Quality”, and thereby infer that a level of quality control, above that applied to products for the local market, has been exercised.

Marketers have to work hard at creating positive attitudes towards the organisation, its products or services and any intermediaries it may channel these products/services through. Changing negative attitudes requires even more effort. In the 1980s, the Kano Tomato Grower's Association, in Northern Nigeria, carefully established a reputation for supplying superior produce. However, the reputation of the product was destroyed by the practice of unscrupulous members who intentionally concealed damaged tomatoes beneath top quality produce. The Association was never able to fully restore the reputation of its product to previous levels. It is generally more difficult, and expensive, to change a negative attitude than to cultivate a positive attitude at the outset. Indeed, it is usually more productive to make changes to the product's characteristics and/or image, to fit the existing attitudes of buyers, than to seek to change firmly entrenched attitudes.

Personality and self-concept

Individuals tend to perceive other human beings as ‘types of persons’. There are, for example, people perceived to be nervous types, ambitious types, self-confident types, introverts, extroverts, the timid, the bold, the self-deprecating, and so on. These are personality traits. Like attitudes, personality traits serve to bring about a consistency in the behaviour of an individual with respect to his/her environment. Thus, for example, a personality characterised by a high degree of self-confidence will consistently be outspoken with respect to his/her views on new ideas, products, processes and practices. Moreover, where there is an element of risk in adopting an innovative product the self-confident personality will be more often among the risk-takers than the risk-averse.

Although great hopes have been expressed by theorists that it would eventually be possible to equate buying and consumption patterns with personality types, this has yet to become a reality. Personality types have proven to overlap and whilst personality traits may serve to bring about a consistency in the behaviour of an individual with respect to his/her environment, there is no firm evidence that there is a similar level of consistency in respect of consumption patterns.

In practice, to marketing management, perhaps the most rewarding aspect of personality studies to date has been the concept of self-image. An individual's self-image is how he/she sees him/herself. Self-image is a fusion of how a person would ideally like to be, the way a person believes others see him/her and how a person actually is. The resulting self-image can be wholly inaccurate. People tend to exaggerate the extent to which they are in proximity to the ideal self and underestimate the extent to which others are aware of weaknesses in their character, and their real self can be quite different from either of the other two.

Case 5.3 Consumers Take An Instant Dislike To Nescafé

Instant coffee was first introduced in 1949. Initially this new product seemed as though it would be widely accepted. Tests were conducted in which samples of potential users were given unmarked cups of instant coffee. A substantial proportion of the sampled respondents could not tell the difference between the two coffees. However, when Nestlé launched its Nescafé brand it was disappointed by sales. Follow-up research posed the question, "Why don't you use instant coffee?" The response was, "I don't like the taste."

Given the pre-launch marketing research results Nestlé decided to pursue the matter and employed a psychologist to pose the question in less direct ways in an attempt to access underlying motives. Two samples, each comprising of 100 housewives, were given a shopping list. The two shopping lists were identical except that one contained Nescafé instant coffee and the other Maxwell House coffee (drip grind). Respondents in each of the samples were asked what they could infer about the characteristics and personality of the woman who had written the shopping list which they had been given. The two groups of respondents described quite different women.

The woman who bought instant coffee was described as lazy, poorly organised, careless with money and an inadequate wife and mother. In describing the hypothetical buyer of instant coffee in this way, respondents were projecting their own feelings towards instant coffee. That is, the rejection of instant coffee had little to do with poor taste characteristics. Rather, respondents were concerned about how they would be perceived by others if they used a convenience product like instant coffee. They were clearly convinced that they would be seen to have the same characteristics as the woman whom they had described.

This classic study of buyer behaviour illustrates the impact of customer perceptions and motivations on buying decisions. It also serves to underline the fact that the reasons buyers give for their behaviour cannot always be taken at face value.⁷

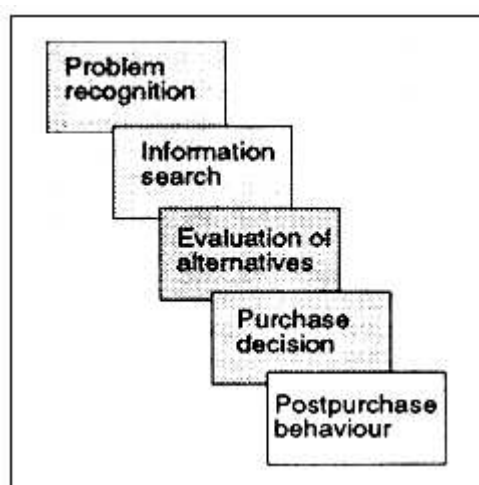
For the marketer the importance of self-images rests in the opportunities to relate product characteristics to these images. For instance, it may be possible to persuade those who see themselves as being in the emerging middle class of a developing country to trade up from coarsely ground maize meal, which the consumer has to collect in his/her own container, to more expensive roller milled maize meal, highly refined and sold in sophisticated packaging. The promotional campaign would focus on the congruence between the self-image and the product image, i.e. a sophisticated, more refined product for a sophisticated, more refined consumer.

The consumer buying decision process

Buying decisions may be made by individuals or a group such as a family or a committee within a commercial or industrial organisation. Where a group is involved, the term Decision-Making Unit (DMU) is commonly used. Marketers are interested in identifying all of the parties involved in the decision making process and are careful to distinguish between buyers and users. The farmer may make the final decision as to whether a given piece of agricultural equipment is purchased but his/her decision could well be influenced by the views, attitudes and amptitudes of the farm worker who will operate the machine. Moreover, the subsequent experience of the operator will play a major role in determining whether or not the decision to buy is positively reinforced. Similarly, the mother in the family may be the chief buyer of household foods but children may have a major influence on the purchase of those food items of which they are the main consumers.

Behaviouralists have used empirical evidence to develop models of the buying process. These models usually portray the buying decision as having several discrete stages. It should be emphasised that these models have been developed in the context of buying decisions in which there is a high level of involvement on the part of the potential buyer, that is, where the item under consideration is expensive and purchased infrequently. Typically, the buying decision models comprised five stages: problem recognition, information search, evaluation of alternatives, purchase decision and post-purchase behaviour. Such models underline the fact that the actual decision to purchase is but a single event in a process which begins sometime beforehand and continues after the item is bought. The marketer is encouraged to think about influencing a buying process rather than a buying decision.

Figure 5.4 A five-stage model of the buying process



Problem recognition: The buying process begins with a recognition on the part of an individual or organisation that they have a problem or need. The farmer recognises that he/she is approaching a new cultivation season and requires seed; a grain trading company realises that stocks are depleted but demand is rising and therefore wheat, rice and maize must be procured; a rural family is expecting an important guest who must be honoured by the slaughter and preparation of a goat for a feast.

Problems and needs can be triggered by either internal or external stimuli. A poor peasant family may purchase a goat, which they can ill-afford, either because they have an innate sense of hospitality (internal stimulus) or because social convention dictates that a goat be procured and prepared for special visitors (external stimulus).

Marketing research needs to identify the stimuli that trigger the recognition of particular problems and needs. Research should be directed towards establishing the needs/problems that arose, how these were brought about and how buyers arrived at the decision that a particular product was likely to meet their need or solve their problem. By so doing marketers can design products/services capable of meeting those needs/problems and develop marketing strategies

that can trigger customer interest in those products or services.

Information search: Information gathering may be passive or active. Passive information gathering occurs when an individual or group simply becomes more attentive to a recognised solution to a given need. That is, he/she exhibits heightened attention. The potential buyer becomes more aware of advertisements or other messages concerning the product in question. In other circumstances the individual is proactive rather than reactive with respect to information. A trader who sees potential in a new vegetable which is being imported into the country will actively search out information about the product, sources of supply, prices and import regulations. He/she is likely to converse with other traders, request literature from potential suppliers, etc.

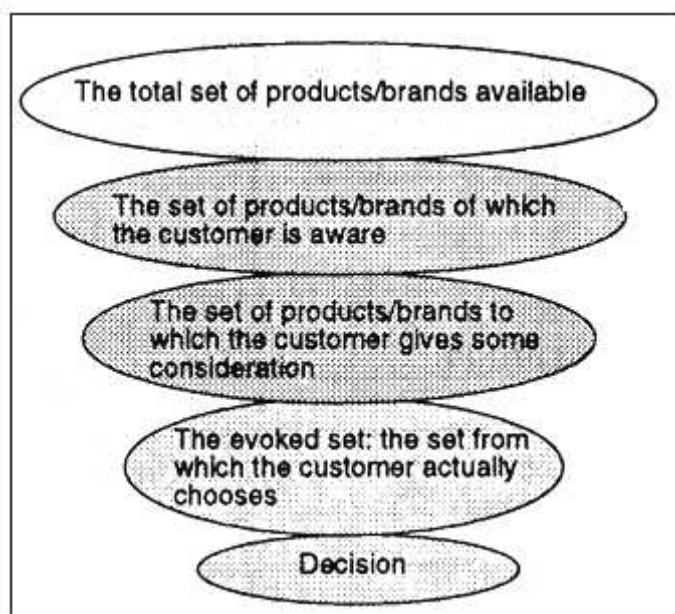
Marketers will be interested to establish what information sources tend to seek out. Kotler⁸ states that the information sources used will fall into four categories:

- personal sources (family, friends, work colleagues, neighbours, acquaintances)
- commercial sources (promotional materials, press releases, technical journals or consumer magazines, distributors, packaging)
- public sources (mass media)
- experiential (handling, using the product).

Kotler suggests that, in the case of consumers, these sources of information will play different roles. It is generally held that communications from commercial and other non-personal sources provide information whilst personal sources, such as family or friends, help in evaluating a product or in making choices between alternatives. The extent of information seeking will vary with the intensity of the drive to 'solve' the problem and the amount of information that the individual already possesses.

As an individual engages in information gathering he/she becomes more knowledgeable about the range of alternative products or brands available. In highly competitive markets where there is a large number of competing products or brands the customer rarely makes a choice from the entire set of alternatives available. Rather, the customer selects from a subset of the alternative products or brands that are actually available, termed 'the evoked set'. Figure 5.5 illustrates the process involved in arriving at the evoked set, i.e. the set of products/brands from which the customer actually chooses.

Figure 5.5 The concept of an evoked set



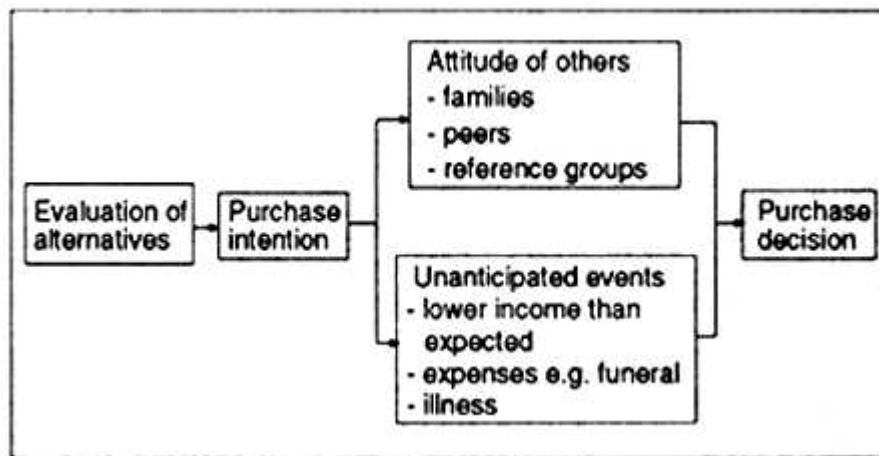
Since a customer's information is likely to be imperfect he/she will be ignorant of the existence of a number of products/brands that are actually available on the market. This happens for a variety of reasons. The customer may only engage in limited information gathering, some products/brands may not be strongly promoted or some may be heavily promoted in distribution channels that a particular customer does not frequent. Thus, the customer is seldom in a position to choose products/brands from the total set. Rather, the customer is only aware of a subset of the total set. Some of these will fail to meet the customer's initial screening criteria. Some will lie outside the customer's price range (they may be either too expensive or too cheap), some will have too high or too low a specification, others might not have the basic level of technical service support in the country. Therefore, the set of products/brands of which the customer is aware is then reduced to a further subset of products/brands to which the customer gives serious consideration. However, as the prospective customer gathers more information the set of alternatives is further reduced until he/she arrives at an evoked set. This is the set of alternative products or brands from which a customer's actual choice is made.

The important implication of the evoked set theory for marketing managers is that they must know when their products are failing to get into the evoked set and should determine what criteria potential customers are using as a basis for including and excluding products/brands from their evoked sets. It is equally important, although not always easy, to establish what information sources customers are using and the roles and relative importance of alternative sources.

Evaluation of alternatives: The process of evaluating alternatives not only differs from customer to customer prospective customer but the individual will also adopt different processes in accordance with the situation. It is likely that when making judgments customers will focus on those product attributes and features that are most relevant to their needs at a given point in time. Here, the marketer can differentiate between those characteristics which a product must have before it is allowed to enter the customer's evoked set. Consider for instance a manufacturer of pasta products sourcing durum wheat. The manufacturer may have criteria he/she uses in deciding whether or not a prospective supplier's wheat 'qualifies' for entry to the evoked set, e.g. a maximum of 14% moisture content, a guarantee of a maximum of 1.5% material other than grain (MOG), and price within a given range. A quite different set of criteria might be used in deciding between alternative products and suppliers within the evoked set e.g. the period of credit given by the supplier, the ability of the supplier to deliver the total order in periodic batches and the reliability of the supplier in the past.

Purchase decision: At the evaluation stage the prospective customer will have arrived at a judgement about his/her preference among the evoked set and have formed a purchase intention. However, two factors can intervene between the intention and the purchase decision: the attitude of others and unanticipated events. If the attitude of other individuals or organisations who influence the prospective customer is strongly negative then the intention may not be converted to a firm commitment or decision. The case of the Swiss-Pakistan Agricultural Light Engineering Programme, which is outlined below, illustrates a situation where the attitudes of peers and reference groups frequently determine whether intentions ever become decisions. Unanticipated events can also intervene between intention and action. Whenever human beings form judgements or seek to make decisions they invariably make assumptions. These assumptions are often implicit rather than explicit. A farmer may state an intention to purchase a mechanical thresher within the next twelve months but when his/her implicit assumption of 'a good harvest' is not realised, due to drought, the purchase of the machine is postponed.

Figure 5.6 Factors intervening between intention and purchase



Postpurchase behaviour: The process of marketing is not concluded when a sale is made. Marketing continues into the postpurchase period. The aim of marketing is not to make a sale but to create a long term relationship with a customer. Organisations maintain profitability and growth through repeat purchases of their products and services by loyal customers.

Having procured the product the customer will experience either satisfaction or dissatisfaction with his/her purchase. The level of satisfaction or dissatisfaction is largely a function of the congruence between the buyer's expectations of the product and the product's perceived performance. Buyer expectations of a product are usually based upon promotional messages from the product's supplier, family, friends, work colleagues and, perhaps, professional advisors. In addition, the buyer's own perceptual processes influence expectations. If the product's perceived performance either matches or exceeds its expected performance then the buyer is likely to feel highly satisfied. It is in the best long term interests of commercial organisations not to oversell their products. That is, the claims made for products should faithfully reflect the product's actual performance capabilities. Even then, this will not prevent some buyers from holding unreasonable expectations of the product.

Another aspect of postpurchase behaviour that is of interest to marketers is how the buyer actually uses the product. It is common to find buyers using a product in a different way from that for which it was either designed or intended. Such deviations can present problems or opportunities to the product supplier. For instance, whilst maize meal is chiefly used as a foodstuff, consumers discovered that it makes an excellent cleansing agent for suede shoes and other items of clothing when these have become badly stained. This new use for the product could represent a marketing opportunity for a repackaged and repositioned product.

Buyers do not invariably pass through all five stages described here. Much depends upon the circumstances surrounding the purchase decision. In the case of less expensive and/or frequently purchased items there would probably be far less searching for information. If the prospective buyer is loyal to a particular brand then the evaluation of alternatives may not figure at all. The fact that some of the stages depicted in figure 5.4 may be skipped, in certain circumstances, does not invalidate the model. The five-stage model outlined here shows the complete sequence of possible events in the buying process. It can be modified to fit the particular circumstances surrounding a given buying decision.

Buyer behaviour and market segmentation

One of the principal applications of buyer behaviour theory, in marketing, is market segmentation. Whether the customer is an individual consumer or commercial/industrial organisation, each differs in their particular needs, motivations, decision processes and buying behaviour. However, no enterprise can provide a different product or service for each and every customer. At the same time, if an enterprise attempts to provide a single standardised product then only a proportion of the target customer group is likely to be wholly satisfied and the remainder will suffer varying degrees of dissatisfaction and will actively seek alternatives. The needs of the dissatisfied are likely to be met by an existing or emerging competing organisation.

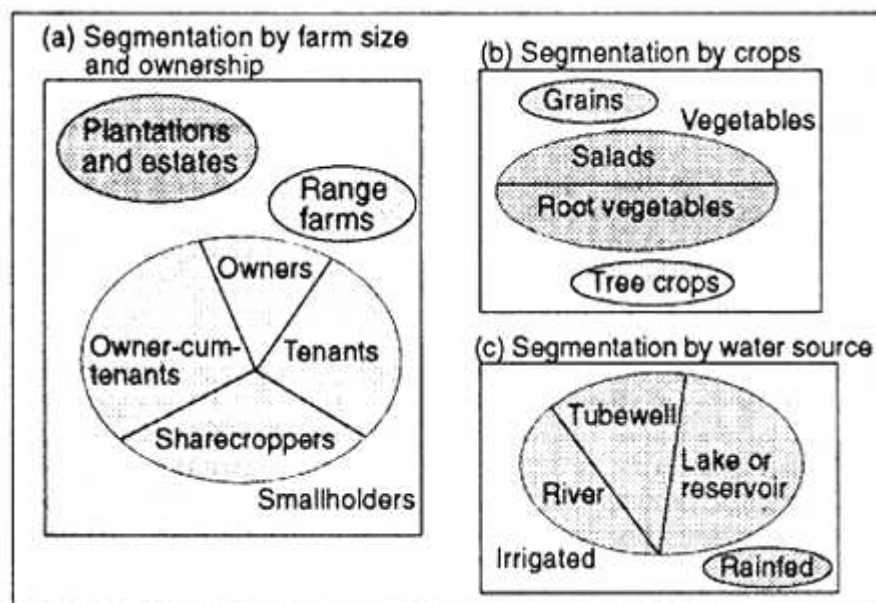
The technique of segmenting a market helps an enterprise decide how far it can go in tailoring its product or service to the needs of distinct groups of customers. Mumby⁹ defines market segmentation as:

“...the process of identifying and then separating a total market into parts so that different marketing strategies can be used for each part. This involves collecting information about the different segments that the company has identified.”

To clarify these points, consider the position of suppliers of agricultural inputs to arable farming enterprises (e.g. seed companies, fertilizer manufacturers, equipment manufacturers, etc.).

Figure 5.7. illustrates some of the bases that might be used in segmenting the market.

Figure 5.7 Segmenting markets for agricultural inputs -an illustration



The variables used to segment markets may be demographic (e.g. age, sex, geographic location, occupation, education, race), psychographic (e.g. activities, interests, opinions, personality, lifestyle) or behavioural (e.g. product usage rate, degree of brand loyalty, occasions of product usage).

According to Engel et al.¹⁰, the objective of market segmentation is to:

“...identify groups within the broader market that are sufficiently similar in characteristics and responses to warrant separate treatment.”

Thus, within a defined market segment customers should be very similar to one another whilst between distinct market segments the groups of customers should be very different from one another. As suggested by Mumby's definition of market segmentation, each market segment might require a quite different marketing mix. This would include having a quite distinct marketing mix for each market segment. Once the market has been segmented the enterprise must decide which of these segments it can profitably serve. The main strategic approaches which may be adopted in this regard are:

Concentrated marketing	The enterprise concentrates on serving a single market segment. This is also known as niche marketing. This can be a high risk strategy since the organisation is vulnerable without some degree of diversification as niche markets can quickly disappear.
Differentiated marketing	Here the organisation elects to serve two or more of the market segments identified. A distinct marketing mix is employed for each market segment which the organisation is seeking to penetrate.

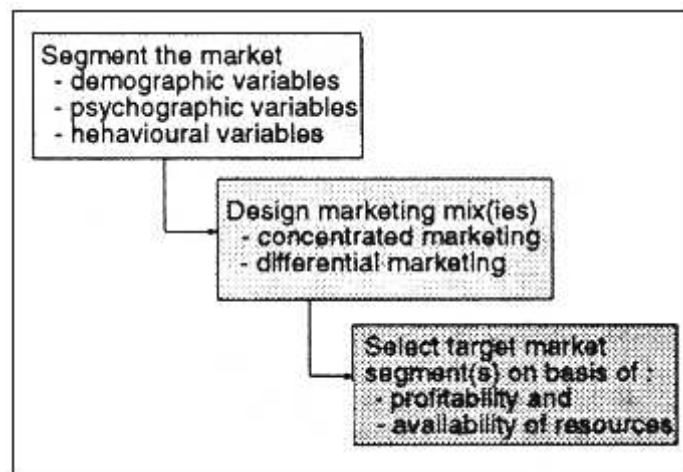
Undifferentiated marketing

This is the antithesis of market segmentation in that the enterprise seeks to attract as many buyers as possible with a single marketing mix. Some organisations have been very successful with this simple formula but it becomes increasingly difficult to sustain market position and share as the level of competition becomes more intense.

Markets may be segmented *a priori*, where the basis of segmentation is chosen in advance, or *post hoc*, where segments are formed after the product has been developed, or even after it has been launched, on the basis of customer response to the product. When the Zimbabwean company Quality Dairies launched its drinking yoghurt it decided *a priori* that it would target the 4 – 10 year olds. Intuitively, the management felt that this segment represented a marketing opportunity. The pack size (250 ml), the pack design (bright colours and a cartoon character named “Slurpy”) and the flavours (chocolate and strawberry) were all predetermined and designed to appeal to this age group. Quality Dairies could equally well have taken a *post hoc* approach to market segment by placing samples in households and then through follow-up interviews determines who used the product, on what occasions, how it was used and with what result (liked it/did not like it). On the basis of this information the market for drinking yoghurt could have been segmented.

The process of segmenting a market is likely to produce a number of different possible customer groups. The enterprise then has to evaluate the relative attractiveness of the market segment identified and select the target segments(s) that it will seek to serve.

Figure 5.8 Target marketing



Of course, whilst some market segments may be attractive in terms of potential profitability, the enterprise will only be able to serve these if its resources match the needs of those segments. Thus, for instance, a small company marketing fungicides might see great opportunities in targeting grain traders but not having the necessary number of salesmen to adequately serve this segment.

Lifestyle segmentation

Individuals who belong to the same subculture and hold the same status within a society may lead quite different lifestyles. For example, two young people coming from the same village, and from families with similar social standing within that village, can have progressed to the same educational level. Thereafter, their paths may diverge. One person follows his/her family's wishes and returns to the village to assist in operating the family's agricultural holding whilst the other pursues a career in the country's capital. Within a short time the two young people are leading very divergent lifestyles, having different interests, holding different opinions and engaging in different activities. Thus a person's lifestyle reflects how he/she interacts with the environment in which he/she lives.

A number of approaches to classifying people's lifestyles have been developed but perhaps the

system most frequently cited is that of Plummer¹¹. This approach involves presenting respondents with a lengthy questionnaire in an attempt to measure their activities, interests and opinions (AIO) as well as their demographics. Table 5.1 shows the principal dimensions used by Plummer to classify lifestyles.

Table 5.1 Lifestyle segmentation

Activities	Interests	Opinions	Demographics
Work	Family	Themselves	Age
Hobbies	Home	Social issues	Education
Social events	Job	Politics	Income
Vacation	Community	Business	Occupation
Entertainment	Recreation	Economics	Family size
Club membership	Fashion	Education	Dwelling
Community	Food	Products	Geography
Shopping	Media	Future	City size
Sports	Achievements	Culture	Stage in life cycle

Organisations like Oxfam have employed lifestyle segmentation very successfully. In addition to its UK high street shops, selling products made in developing countries, Oxfam produces a mail order catalogue. These catalogues show full colour photographs of products from developing countries and so are expensive to publish. Oxfam has to carefully target the households to which the catalogue is sent. Careful research and prudent investment in the establishment of a marketing information system has enabled Oxfam to build a picture of people who are likely to give and buy from charities like itself. Oxfam has a shrewd idea of the newspapers these prospective donors/buyers will read, the political party they will support, their probable stand on a wide range of social issues and even their favourite leisure activities. As a result Oxfam are able to employ what might be termed a rifle gun strategy and pinpoint specific targets rather than adopt the shotgun approach, blasting off in a general direction in the hope of hitting something.

Organisational buying behaviour

Organisational buying behaviour has been defined by Webster and Wind¹² as

“...the decision-making process by which formal organizations establish the need for purchased products and services, and identify, evaluate, and choose among alternative brands and suppliers.”

Organisational buying decisions are likely to be made by a group rather than wholly by an individual. Webster and Wind coined the term ‘decision making unit’ (DMU) to describe such groups. Members of DMUs may have different roles, including:

Users	The individuals who are most likely to use the product often initiate the buying process by signalling a need for it and outlining its specifications, e.g. the production manager in a dairy factory might identify the need to buy a certain amount of milk for yoghurt production and will specify the butterfat content and total bacterial count acceptable in the milk.
Influencers	Others in an organisation may have an influence on the specifications and also provide information on alternatives, e.g. the quality control personnel in the dairy factory could amend the production manager's specification to reflect a range of acceptable butterfat content and provide an assessment of the prospects of substituting spray dried milk for fresh milk.

Decision-makers	Decision-makers ultimately have the power to reach conclusions on the product, product specifications and/or suppliers.
Approvers	There could be some person with authority to sanction the purchase specified by the decision-maker.
Buyers	Buyers have the formal responsibility for choosing suppliers and agreeing the terms and conditions attached to the contract of sale.
Gatekeepers	Access to members of the DMU may be controlled by secretaries, switchboard operators, personal assistants and the like. These individuals may also filter information intended for members of the DMU.

When attempting to market to organisations it is imperative that information be gathered on the structure of the DMU within each target enterprise. Intelligence gathering should include attempts to understand the relative roles of each identified member of the DMU. It is also important to appreciate the status or authority of members of the DMU. For example, in some instances the term 'buyer' is used to describe individuals who simply perform the clerical duty of executing the buying decisions made by decision-makers, but in others the 'buyer' is the decision-maker. Moreover, in some organisations the 'buyer' is a member of middle management whereas in others he/she is a member of senior management. This can have implications for the structure and titles of the salesforce in a marketing organisation. Senior managers may be happy to deal with a Sales Manager but not a salesman. It is not simply the sales-person's title which might matter but the extent to which he/she is empowered to make decisions without reference back to a more senior person. Thus, when marketing to organisations it is important that the sales-person is able to deal with the professional buyer on an equal footing, i.e. similar status within their respective organisations, similar levels of responsibility and authority and, possibly, job titles that convey their equality.

Organisational markets

Organisational markets fall into one of three categories: industrial markets, reseller markets and government markets.

Industrial markets

Industrial buyers procure raw materials, components, semi-finished goods and services as input to the production of other goods and services. Thus industrial markets are characterised by derived demand. That is, the demand for industrial goods ultimately derives from the demand for consumer goods. Since this is the case marketers of industrial products must maintain an interest in patterns of consumer demand and the forces which shape that demand.

Most large industrial commercial organisations employ professionally trained buyers. The tasks of industrial buyers can be categorised as straight rebuys, modified rebuys and new tasks. Some of these tasks open more opportunities than others for enterprises not already supplying a particular organisation.

Straight rebuys: Where a buyer, or purchasing department, routinely reorders an item it is referred to as a straight rebuy. The buyer will either reorder from the same supplier as last time or from an approved list of past suppliers. Entry for a new supplier is difficult and will possibly only be achieved if a potential supplier can either innovate in the form of new products or marketing systems (e.g. improved methods of transportation or materials handling), or can offer terms and conditions which are substantially better than the organisation is receiving from existing suppliers. The difference has to be substantial since any change of supplier involves risks and the buying organisation is unlikely to make a switch to achieve marginal gains.

Modified rebuy: On occasion the buyer will want to modify the product specifications and/or the terms and conditions attached to a sale contract. Sometimes this opens up opportunities for enterprises which have not previously been suppliers to the buyer's organisation. New suppliers may be able to offer product specifications or terms that existing suppliers cannot match. Again, however, differences must be significant or buying organisations may not be sufficiently well

motivated to accept the risks inherent in switching suppliers.

New buy task: Periodically buyers are faced with buying a product for the first time. The buyer's information search will almost certainly be more extensive. Since new buying tasks carry inherent risks, the buyer is likely to consult more widely with his/her colleagues and other advisers. This is where potential new suppliers, who are genuinely able to offer a better service, products and/or terms and conditions will find it easiest to gain access to buyers within the buying organisation.

Robinson et al.¹³ proposed an eight stage model of the procurement process undertaken by industrial buyers and have related this to the buying tasks just described. The model is popularly known as the buygrid.

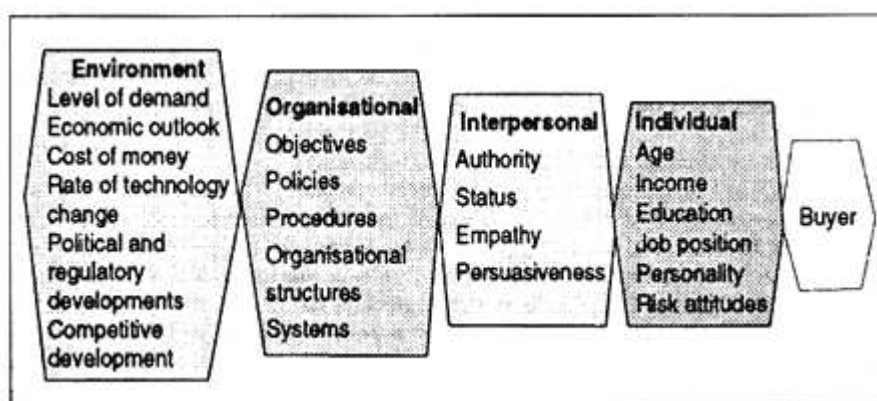
Figure 5.9 The buygrid

Buyphases	Buyphases		
	New Task	Modified Rebuy	Straight Rebuy
Anticipation or recognition of a problem (need) and a general solution			
Determination of characteristics and quantity of needed item			
Search for and qualification of potential sources			
Acquisition and analysis of proposals			
Evaluation of proposals and selection of supplier(s)			
Selection of an order routine Performance feedback and evaluation			

As buyphases are completed, moving from phase 1 through phase 8, the process of “creeping commitment” occurs, and there is a diminishing likelihood of new vendors gaining access to the buying situation.

According to Webster and Wind¹² the decisions of industrial buyers are influenced by four groups of factors: environmental, organisational, interpersonal and individual. These are explained a little by figure 5.10

Figure 5.10 Major influences on organisational buying decisions



In summary, industrial marketers require a clear understanding of the needs of their prospective

clients, an awareness of who is involved in the DMU, a knowledge of the criteria used in making buying decisions and an appreciation of the buying procedures involved.

Reseller markets

Wholesalers, traders, sales agents, retailers and the like procure goods and services to resell or rent them to others, at a profit. These individuals and organisations comprise the reseller market. Some vertically integrated agricultural organisations are both producers and resellers. For instance, multinational fruit companies such as United Fruit, Geest, and Del Monte own plantations as well as engaging in trading.

Case 5.4 Bigger, Better, Faster Doesn't Cut With Local Authority Buyers

One might be forgiven for believing that all buyers are interested in new products which in some important respect perform better than others already on the market. However as the grass-care equipment manufacturer, Birmid-Qualcast, discovered, this is not always the case.

Birmid-Qualcast manufactured two distinct ranges of grass-care equipment, one for consumer households under the Qualcast brand name, and another for local authorities and other organisational markets under the Atco brand name. Whilst conducting marketing research into the potential demand for an innovative grass cutting machine, the company discovered a fundamental difference in the motivations of two market segments: farmers and professional buyers acting on behalf of local government. Whereas farmers showed great interest in the potential of the new machine to increase productivity, reduce operating costs and perform a wider range of tasks than competing products, local authority buyers demonstrated surprisingly little interest in these particular product attributes. In-depth interviews with buyers in local government revealed a marked difference between their motivations and those of farmers.

As the owner or manager of an agribusiness, farmers are strongly motivated to reduce costs, improve efficiency and increase productivity. However when a local authority buyer purchases a "better" product, the person or department that operates the machine rarely, if ever, congratulates him/her on making a good decision. Rather, the buyer is more likely to hear from the machine user when things go wrong such as a breakdown. Hence the local authority buyer is, in a sense, negatively rather than positively motivated. His/her behaviour is oriented towards avoiding criticism rather than soliciting praise.

The practical implication for Birmid-Qualcast was that promotional messages to local authority buyers, which communicated that products were "bigger, better, faster," would have less impact than those stressing product reliability, extended warranties, high levels of after sales service and the holding of extensive stocks of spares in local distribution outlets.

This case serves to illustrate the dangers of simply assuming that prospective buyers are motivated in a particular way.

It is important that organisations wishing to market products and services into these markets understand that resellers act as purchasing agents on behalf of their customers and not as intermediaries for producers, manufacturers and other types of suppliers. The key to success in marketing to resellers is to seek to assist resellers in better meeting the needs of their customers.

Government markets

Government markets have at least four levels. These are national, state, district and municipal. In most, if not all, countries the government is the largest single customer for goods and services. Government buys to fulfill mandated public objectives. Examples of the kinds of public objectives that involve the food and agriculture sectors are the maintenance of a strategic grain reserve, the procurement and distribution of staple foods to the poor and those suffering hardship due to drought, the management of nutrition intervention programmes for malnourished children, the provision of food for the country's armed forces and, sometimes, for schools, hospitals, prisons and other public institutions.

Government buying procedures usually take the form of either open bids or negotiated contracts. Open-bid buying involves a government agency in inviting tenders from pre-approved suppliers for carefully specified products, materials, works or services. In most cases, the government agency will also specify the terms and conditions attached to the contract. The normal practice is for the contract to be awarded to the lowest bidder able to meet the specifications. Prospective suppliers must decide both whether they can meet the specifications and if they are able to accept the terms and conditions laid down by the government agency.

Negotiated contract buying is rather different. Here the government agency identifies suppliers at an early stage and negotiates the specifications and terms and conditions directly with them. This type of buying is more common in capital investment projects where R & D investment can be high, development times are relatively long and the item is custom made. In China, for example, the government has decided to invest in centralised wholesale markets for fruit, vegetables and aquatic produce, to replace the myriad of smaller wholesale markets that tend to be dotted around the major cities. It is believed that the centralised wholesale markets will give rise to economies of scale and reduce traffic congestion. The building of these wholesale markets has been conducted on the basis of negotiated contracts between municipal authorities and private contractors.

Industrial buyer characteristics

Individuals who purchase products on behalf of an enterprise they either own or are employed by have two distinct sets of goals that they pursue: their own and those of the organisation. As an individual, the industrial buyer enjoys exercising authority, seeks job satisfaction, the approval and respect of both peers and superiors and other personal goals and avoids unnecessarily risky decisions. Industrial buyers are also motivated by the desire to achieve organisational goals such as cost control, improved efficiency of operations, reliable supplies of essential inputs, improved product performance and so on.

Figure 5.11 Motivations of organisational buyers



Those marketing to organisational buyers can use their understanding of these twin sets of

motivations to great effect. Consider the task of marketing a new feed formulation to a buyer operating within a medium-large poultry producing company. An appropriate marketing campaign would attend to both the buyer's personal and organisational goals. The satisfaction of organisational goals might be addressed in the following way: the feed includes marigold leaves giving the client's finished product a golden colour attractive to consumers (Improved product performance), the principal ingredient by weight being cassava, is purchased from Thailand, the world's lowest-cost producer of this crop (cost control), the feed producer multi-sources all of the ingredients used in his product and places forward contracts of nine months with all suppliers (reliability of supply) and the poultry feed producer uses a high quality mill screen that ensures feed particles are consistent in size and will not clog the client's feed dispensing units (improved operational efficiency). The organisational buyer's personal goals might be met in the following way: a copy of an evaluation report on the new product by a respected scientific institution (reduces risks in the buying decision), the scientific advances incorporated in the poultry feed are explained in non-technical language in information sheets sent only to the buyer within the organisation (enables the buyer to articulate the benefits of the feed in a way calculated to enhance the esteem of the buyer amongst his/her colleagues) and the buyer is empowered, by the terms and conditions attached to the sale of the new feed, to cancel the shipments if his/her organisation does not feel that the product is not delivering the promised benefits (appealing to the buyer's enjoyment of the exercise of authority and power as well as further reducing the risks attached to a decision to buy).

Of course, the manufacturer of the new poultry feed mix would only know to include these particular arguments and propositions if the trouble had been taken to determine what motivates the buying decision.

Summary

The purpose of studying the social and psychological forces impinging upon customers is not to manipulate buyer behaviour but to be in a position to tailor the marketing mix so as to better meet the needs of prospective customers.

Buyer behaviour is shaped by social and psychological influences some of which are exogenous whilst others are endogenous. Exogenous influences, i.e. those arising from social interactions, are external to the individual, and include; culture, social status, reference groups, family membership and peer groups. Endogenous influences, i.e. those arising from the individual's own psyche and therefore internal, include needs and motives, perceptions, learning processes, attitudes and beliefs, personality and self-concept. It is only by understanding these sociological and psychological phenomena that an enterprise can really hope to develop a marketing mix that meets the needs of its target customers.

The typical model of the consumer buying decision process involves five discrete steps. These are: problem recognition, information search, the evaluation of the alternative problem solutions, the act of purchasing and postpurchase behaviour. Such models serve to emphasise that buying is a process rather than an event. The buying process is initiated long before any overt behaviour provides evidence that the process has begun and continues long after the product has been purchased and consumed.

Without a grasp of buying behaviour, theory market segmentation is virtually impossible. Market segmentation is the process of subdividing the total market into smaller parts according to shared characteristics and/or needs of the customers within a segment. The idea is for enterprises to more finely tune their marketing mix to the needs of market segments comprising customers whose behaviour, needs and motivations exhibit a high degree of homogeneity. Those market segments which a business seeks to serve are termed its target markets. Markets may be segmented using variables which are demographic (e.g. ethnic group, age, sex), psychographic (i.e. lifestyle) and/or behavioural (e.g. rate of product usage, brand loyalty). Once the market has been segmented, a decision has to be made as to which segment(s) to serve. This is known as target marketing and involves matching organisational resources to market opportunities.

Organisational markets are of three broad types: industrial, reseller and government. Buying

decisions within larger organisations are more often made by decision making units (DMUs) than by individuals. This being the case, it is important to determine which individuals play a role in the buying decision and what role they play (e.g. users, approvers, specifiers, order placers). The buying task ranges from the very simple repurchase of an item which the organisation has been using for some time to the complex task of buying an item of substantial value and/or importance for the first time. The decisions of an organisational buyer will be affected by both personal and institutional goals and these too have to be understood. Personal goals are likely to include, for example, the need for self-esteem, the approval of others and the minimisation of risks. Corporate goals might include increased efficiency, improved product/service performance, reduced costs and/or securing reliable supplies of essential inputs. In making decisions organisational buyers are subject to four main categories of influences: environmental, organisational, interpersonal and individual.

Key Terms

Buygrid	Differentiated marketing	Exogenous factors	Perceptions
Cognitive dissonance	Drives	Government markets	Personality
Concentrated marketing	Endogenous factors	Industrial markets	Reseller markets
Cues	Evoked set	Motives	Self-image

Review Questions

From your knowledge of the material in this chapter, give brief answers to the following questions:

1. Outline the stages of customer decision processes.
2. Explain the term 'Endogenous factors' and give 3 examples of such factors.
3. Are needs and motives one and the same thing?
4. What is cognitive inconsistency?
5. List the four fundamental characteristics of attitudes.
6. Name 2 forms of government contract.
7. How is the term 'gatekeeper' used in the context of organisational buying behaviour?
8. Name the 4 categories of influences on organisational buying decisions.
9. Name the 3 types of reference groups which influence individual behaviour.
10. How can it happen that two people viewing the same event can perceive it differently?
11. Define the term 'evoked set'.
12. Name the three categories that can be used to segment markets.
13. What is the 'buygrid'?
14. Explain the meaning of the term 'differentiated marketing'.

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Chapter 6

Commodity Marketing

The term 'commodity' is commonly used in reference to basic agricultural products that are either in their original form or have undergone only primary processing. Examples include cereals, coffee beans, sugar, palm oil, eggs, milk, fruits, vegetables, beef, cotton and rubber. A related characteristic is that the production methods, postharvest treatments and/or primary processing to which they have been subjected, have not imparted any distinguishing characteristics or attributes. Thus, within a particular grade, and with respect to a given variety, commodities coming from different suppliers, and even different countries or continents, are ready substitutes for one another. For example whilst two varieties of coffee bean, such as robusta and arabica, do have differing characteristics but two robustas, albeit from different continents, will, within the same grade band, have identical characteristics in all important respects. Agricultural commodities are generic, undifferentiated products that, since they have no other distinguishing and marketable characteristics, compete with one another on the basis of price. Commodities contrast sharply with those products which have been given a trademark or branded in order to communicate their marketable differences. Differentiated products are the subject of the chapter which follows.

This chapter is largely descriptive and is intended to merely to give an overview of commodity marketing. Five categories of commodity are discussed in this chapter: grains, livestock and meat, poultry and eggs and fresh milk. Since this textbook ostensibly deals with agricultural and food products marketing and marketing systems internal to developing countries, the exclusion of non-food crops such as tobacco, cotton and rubber, was deliberate. If products like these had been included then de facto, the discussion would have been oriented towards export or international marketing. A companion textbook to Agricultural and Food Marketing Management, entitled "Global Marketing", has been developed to deal with these topics in some depth.

Chapter Objectives

The objectives of this chapter are to provide the reader with an understanding of:

- The principal stages of agricultural commodity marketing
- The main participants in commodity marketing systems and the roles which they perform, and
- The essential features of the assembly, transporting, grading, processing and consumption of selected agricultural commodities.

Structure Of The Chapter

The chapter has a simple structure. Eight stages of commodity marketing are identified at the beginning of the chapter. This is a general model and therefore not all of the stages it describes are equally applicable to the commodities selected for discussion. This being so, certain stages are given more or less emphasis; and for some commodities specific stages are omitted altogether from the discussion. Thus the chapter gives a generalised impression of agricultural commodity marketing.

Stages in a commodity marketing system

A commodity marketing system encompasses all the participants in the production, processing and marketing of an undifferentiated or unbranded farm product (such as cereals), including farm input suppliers, farmers, storage operators, processors, wholesalers and retailers involved in the flow of the commodity from initial inputs to the final consumer. The commodity marketing system also includes all the institutions and arrangements that effect and coordinate the successive stages of a commodity flow such as the government and its parastatals, trade associations, cooperatives, financial partners, transport groups and educational organisations related to the commodity. The commodity system framework includes the major linkages that hold the system together such as transportation, contractual coordination, vertical integration, joint ventures, tripartite marketing arrangements, and financial arrangements. The systems approach emphasises the interdependence and inter relatedness of all aspects of agribusiness, namely : from farm input supply to the growing, assembling, storage, processing, distribution and ultimate consumption of the product.

The marketing systems differ widely according to the commodity, the systems of production, the culture and traditions of the producers and the level of development of both the particular country and the particular sector within that country. This being the case, the overview of the structure of the selected major commodities marketed, which follows, is both broad and general. The major commodities whose marketing systems will be discussed in this chapter are, large grains, livestock and meat, poultry and eggs, cotton, fruit and vegetables and milk. Table 6.1 identifies the main stages of agricultural marketing and this provides a loose framework around which to structure the discussion of the marketing of these commodities.

Table 6.1 Stages of agricultural marketing

Stage	Examples
Stage 1: Assembly	Commodity buyers specialising in specific agricultural products, such commodities as grain, cattle, beef, oil palm, cotton, poultry and eggs, milk
Stage 2: Transportation	Independent truckers, trucking companies, railroads, airlines etc.
Stage 3: Storage	Grain elevators, public refrigerated warehouses, controlled-atmosphere warehouses, heated warehouses, freezer warehouses
Stage 4: Grading and classification	Commodity merchants or government grading officials
Stage 5: Processing	Food and fibre processing plants such as flour mills, oil mills, rice mills, cotton mills, wool mills, and fruit and vegetable canning or freezing plants
Stage 6: Packaging	Makers of tin cans, cardboard boxes, film bags, and bottles for food packaging or fibre products for
Stage 7: Distribution and retailing	Independent wholesalers marketing products for various processing plants to retailers (chain retail stores sometimes have their own separate warehouse distribution centres)

Reporting on the participation of the government, in commodity marketing, in sixteen Asian and Pacific countries, the Asian Productivity Organization noted¹ that:

“In all the reporting countries, the government played an important role in the marketing of farm products. The nature and degree of involvement, however, differed depending on the commodity and marketing functions. In general the involvement was greatest in the case of grains, particularly, rice and wheat, which were staple products in most countries. In some cases, government or state-owned enterprises were also directly involved in the marketing of specific industrial/commercial crops such as tea, rubber, sugar, oil palm and coconuts, which were major export crops of

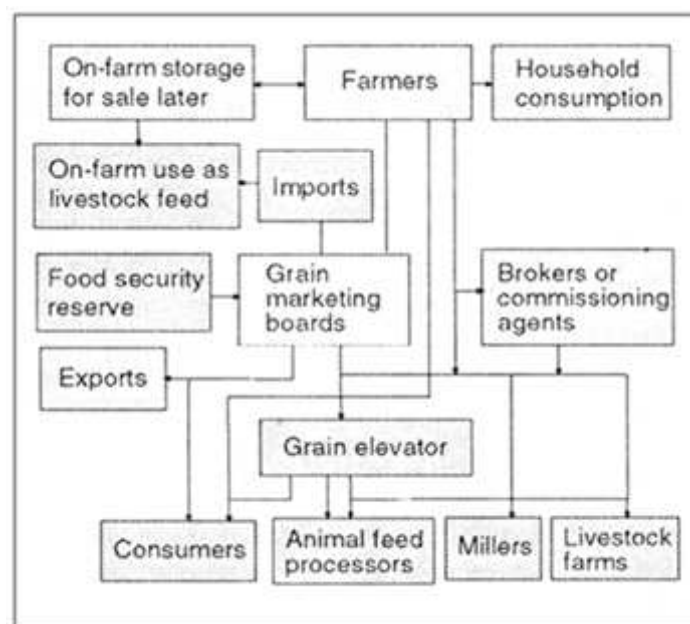
the region. Governments played lesser marketing roles in the case of other farm products such as fruits and livestock.”

Had the study been extended to other parts of the less developed world then a crop such as maize might have figured more prominently but otherwise the findings would have been the same. Governments are particularly interested in influencing the production and marketing of staple crops since the price and level of availability of these impacts upon household food security and farm incomes. These in turn have implications for political stability and the extent to which there are inflationary pressures on wage rates. Government interest export crops is due to the potential in earning foreign currency.

Grain marketing

The principal participants in grain marketing systems are producers, marketing boards, grain elevators, brokers, millers, livestock farmers, animal feed processors, millers, other food manufacturers, grain exchanges and exporters.

Figure 6.1 A typical grain marketing system



The physical marketing system begins with the assembling and collecting points located in the rural areas close to the producers. The next stage involves the storage areas at the national grains marketing facilities owned and operated by an appointed parastatal and/or private grain elevator; and the grain milling companies which in some countries are privately owned and in others are government enterprises. Although the size and methods of operation differ from country to country, the local assembling and collection points usually have grains brought to them either directly by the farmer-producers themselves or by rural entrepreneurs. Thus in the case of grain, the assembly and storage functions are typically combined at this marketing stage. In countries where a marketing parastatal has been given a monopoly in grain trading, private traders are sometimes authorised to buy grains from farmers (i.e. local buying agents) on behalf of the parastatal.

A common feature of grain marketing systems is the co-existence of a government marketing agency (parastatal) and a parallel private marketing channel with myriad's of private traders. Public grain marketing agencies are government appointed parastatals assigned to control or regulate the system. Prior to market liberalisation marketing parastatals were recognised, in many developing countries, as the “official channel” of the maize marketing system, and were responsible for setting the prices for major cereals (i.e. producer, into-depot, ex-depot, into-mill, ex-mill and consumer or retail). Depending on the country, these agencies usually consisted of one or more ministries related to cereals production and influencing public policies affecting food production and consumption and a parastatal established to operationalise the regulatory

provisions of the public policies enacted for a given crop. In many developing countries parastatals remain important players in the grain marketing system even though their role may have changed. In the post-market liberalisation era many, but not all, of these parastatals have either been disbanded or have been assigned a specialised role such as acting as the buyer-of-last-resort or maintaining food security reserves.

The second class of actor in the commodity marketing system is private agents. These include private individuals operating in the system as petty assemblers, traders large-scale merchants, millers (both large corporations and small rural operators), brokers and retailers of grain products. The exact quantity of grain flowing through the private channel is often not known. However, most of the agents in the channel operate in rural areas and penetrate the remotest areas of the rural areas to purchase grains. A common justification for establishing parastatals is, that parastatals get to hinterlands that private operators cannot or will not reach. However, Ikpi² claims that it is private marketing agents that more often get to remote hinterlands to buy and collect maize from farmers when the government agencies fail. However, in those developing countries where national structural adjustment programme have not yet been initiated, inter-provincial grain movement controls are so strictly policed that private agents in the system cannot legally and profitably transport grain from one production zone to another. For those countries that are already adjusting their economies structurally, market liberalisation is making or will soon make much restrictions on commodity movement irrational and new form of intermediary are coming into being. Among these are commissioning agents or brokers. These entrepreneurs do not take title to the grain but take responsibility for selling the grain. They act as agents for the grain seller who may be a farmer, a grain trader or grain elevator.

Grain storage

Whether storage takes place on the farm or in silos off the farm, increases in the value of products due to their time utility must be sufficient to compensate for costs at this stage, or else storage will not be profitable. These costs will include heating, lighting, chemical treatments, store management and labour, capital investment in storage and handling equipment, interest charges and opportunity costs relating to the capital tied up in stocks. Among the less tangible costs is the risks attached to storage. These include shrinkage due to pilferage, pests, fungal growths and loss of quality due to ageing. Another risk is that demand could fall with adverse effects on prices.

Since the advent of structural adjustment programmes and market liberalisation, some grain marketing parastatals have lost their monopoly of the market and consequently the volumes of grains which they are handling has dropped substantially. This means that they no longer require all of their storage capacity and a number of marketing parastatals now rent some of their storage capacity to farmers, grain traders and other participants in the grain marketing system.

Two types of storage facility, are commonly found, namely: the bulk storage facility where cereals are stored in concrete and/or metal bins, and the bag storage facility where the crop is stored either inside a warehouse or in the open and then covered by tarpaulin sheets. In comparative terms, the advantage of a bulk over a bag storage system are that it is more efficient because it:

- reduces congestion at the depots by not allowing for bagged maize to be dumped all over the depot yard
- reduces handling costs
- saves foreign exchange on bags, tarpaulin and fumigation, and
- lowers storage losses.

Its disadvantages are that:

- the initial invest is high, with a significant foreign currency component
- it is inflexible in terms of not being easily expandable to cope with changes in intake and

off-take levels

- it relies heavily on an efficient transport system because a silo complex is only economically viable when throughput is at least 1.6 times its capacity³, and
- it needs skilled manpower to run and maintain the entire system.

On the other hand, a bag system ideally overcomes the problems associated with a bulk system as enumerated above. Its main disadvantages are:

- higher quality losses in storage due to insect pests and rodents
- higher demand for foreign exchange associated with the purchase of bags
- tarpaulin and fumigation sheets.

The depot manager controls the day-to-day operations of the depot. The duties of the depot manager include accepting, checking the quality, recording the quantity and storing the produce brought in by the farmers. Each depot's record of accepted and stored produce are then sent to headquarters for necessary action. With this information to hand, inter-depot or inter-district transfers can be effected.

Grading of grains

It is important to have a grading system which accurately describes products in a uniform and meaningful manner. Grades and standards contribute to operational and pricing efficiency by providing buyers and sellers with a system of communicating price and product information. By definition, commodities are indistinguishable from one another. However, there are differences between grades and this has to be communicated to the market. By the same measure, buyers require a mechanism to signal which grades they are willing to purchase and at what premium or discount. Prices vary among the grades depending upon the relative supply of and demand for each grade. Since the value of a commodity is directly affected by its grade, disputes can and do arise. In fact, the government may establish grading services to serve as a disinterested third party.

Grading typically occurs at the assembly stage or when a product moves into storage, during storage, or just before it leaves storage. Grading is not normally a separate marketing stage, although it has been separately identified in table 6.1 in this chapter. It is a function provided by the storage firm or the commodity merchant or the government. Prescribed procedures for grading are set forth by the trade members of commodity markets or else are stated in governments regulations. Grading may be undertaken by a member of the trade specialising in a particular commodity. Several lots of grain, oilseeds, and cotton are combined to produce a grade level required for a particular sale. This gives rise to what are known as house grades. A merchant's primary marketing advantage may be a reputation for house grades of consistent quality.

The absence of grades and standards restricts the development of effective and efficient marketing systems. For example, for some time the government of Nepal have been trying to establish an internal food marketing system. It has no nationally integrated market but due to its topography and poor communication routes there is little inter-state trade. Instead each state has closer trade relations with neighbouring Indian states. There are substantial obstacles to achieving an integrated national market as explained by Chong Yeong Lee⁴;

“The lack of a unified measurement system also hampers the development of marketing. In Tarai, grain is measured by weight (1 mand=37.3kg) and in the Hills and Inner Valleys it is measured by volume (1 pathi = 4.54 litres). The same unit of weight, such as “seer”, is equivalent to 0.93kg of meat in the Tarai area, 0.79kg in Kathmandu and 0.25kg in Pokhara.”

Clearly, the confusion which this situation gives rise to, mitigates against the successful

development of a national market. Moreover, effective standardisation is basic to an efficient pricing process. Consumers use the price differentials they are willing to signal to suppliers what they want with regard to produce quantities and qualities. If produce is not in well defined units of quantity and quality then the pricing mechanism fails as a device for communicating consumer wants to suppliers. However, Dixie⁵ warns that any grading standards for domestic markets must originate from the industry itself as and when it becomes apparent that the consumer is willing to pay a higher average price for the sorted product. He points out that,

“Although national standards can probably be justified for export, when compulsory minimum standards are introduced for the home market it will put up prices to the consumer”, and that this would, “...lower consumption and reduce the size of the local market”.

Usually samples of different sizes (depending on the size of the load) are taken from each lot delivered to the depot of the buyer and these are tested for compliance with the acceptance standards. The results determine the grade into which the whole lot from which the sample came is classified to determine the price to be paid to the grower. Typical variables used in grading grain include:

- the moisture content of the grain
- the percentage of broken kernels
- degree of discolouration in the grain
- the percentage of material other than grain (MOG) in a sack or load

Case 6.1 Thailand's Rubber Collection And Grading System

Thailand is a major player in the world's rubber markets. However, both government and those within the Thai rubber industry were becoming increasingly concerned about the quality of rubber coming from the smallholder sector. The Bank for Agriculture and Agricultural Cooperatives (BAAC) became directly involved addressing this problem.

Research within the smallholder sector identified several problems. One of the principal causes of the high levels of impurities in the rubber delivered to local buying points was the containers used. Smallholders were using tins, cans, plastic containers, buckets a wide variety of other types of container. These were totally unsuitable since they were usually contaminated by residual traces of previous contents. BAAC therefore sponsored a leasing system for standardised milk churns. These churns were of uniform dimensions and were easy to clean. Standardisation on receptacles for the rubber meant that other operations could be standardised including the weighing and storage equipment used at the local buying point as well as the vehicle used to transport the rubber between the buying point and the factor.

Local buying points were so situated that no smallholder had to travel more than 2 km to deliver his/her rubber. This was important since many smallholders either walked or cycled to the buying point. Preliminary tests at the buying point gave some indication of the level of impurities in the rubber. These tests included one for specific gravity since some of the more unscrupulous smallholders were known to add battery acid to the rubber to increase the apparent volume. Producers were given a receipt for their rubber which was then transferred to the factory where much more sophisticated tests could be

conducted on the quality of the rubber. Smallholders were then informed what premium, if any, their rubber had attracted in accordance with its grade.

Payment was effected through BAAC branches. The actual payment made to the smallholder was the grade price minus any outstanding loans or loan repayments given by BAAC to cover production expenses.

In Sub-Saharan Africa, for example, maize is received in 4 grades, A to D, with A being the highest grade and D the lowest. The system allows for the farmer to dispute the grade awarded to his crop. In such cases, the farmer has to submit a written request within a specific time to the depot through which his crop was delivered.

Typically, after grading is effected, the farmer is issued with a receipt showing details of the type, quantity and grade of the maize delivered. The receipt constitutes an acknowledgment by the agency that it is indebted to the farmer up to the value of the crop detailed on it. From that point on, the marketing risk attached to the crop passes from the producer to the agency/parastatal. It is relevant to point out that it usually costs the same amount to process a grain receipt for 1 tonne as it does for 1,000 tonnes.

Grain processing

Grain processing is about the most important activity from the final consumer's stand point within the marketing chain of the crop. Grain, for human consumption, is usually milled into flour or meal. Usually two types of maize flour are processed in each country, namely: the refined, white and sifted (powdery) flour produced by industrial roller mills and the unrefined and coloured maize meal produced by hammer-mills. The highly refined grade of meal is generally consumed by urban dwellers, while the hammer-mill grain meal is a low-grade "whole maize meal" favoured by rural consumers and the urban poor.

In many countries, the milling industry is highly concentrated, usually with one major company controlling over eighty percent of the maize mill trade. For example, in Kenya, maize milling is controlled by the Mercat Group of Companies (Unga Ltd, etc) (90 percent): while in Malawi, it is GRAMIL, a subsidiary of ARMARC which processes eighty three percent of the maize in that country. In Tanzania, the National Milling Corporation, (NMC) handled about eighty five percent of all maize milled before it fell into financial difficulties in the early 1990s and was allowed to go out of business; in Zimbabwe it is the National Foods which controls eighty percent of maize milling in the country until progressive liberalisation of the market increased the level of competition during the first five years of the 1990s. Grains can also undergo secondary processing and be converted into more sophisticated products such as baked foods, breakfast cereals, baby foods, cooking oils, starches, sugars etc. A considerable amount of grain is also converted to animal feed. Due to this versatility in end use, the marketing chain for grains tend to be long and complex.

Challenges for grain marketing systems

Depot network and distribution of production problems arise because crop production is rarely evenly distributed across a country. In most countries cereals production is concentrated in one or two regions of the country, and the remainder are cereals deficit areas. In these circumstances it usually becomes rational and necessary for the government agency handling grain distribution, where there is one, to construct intake depots in the producing region(s), and storage depots in the major consumption areas. But in most instances, post-independent governments in some of these countries adopted rural income policies that made it mandatory for the whole country to be provided with government agency depots within short distances of every producer. The aim was to overcome political, social and economic injustices of the past. It was a policy which was also pursued in the hope that smallholder farmers would be attracted into the cash economy. In the end, this huge investment in infrastructure was economically unsustainable and most developing countries are now locating storage facilities on the basis of economic efficiency.

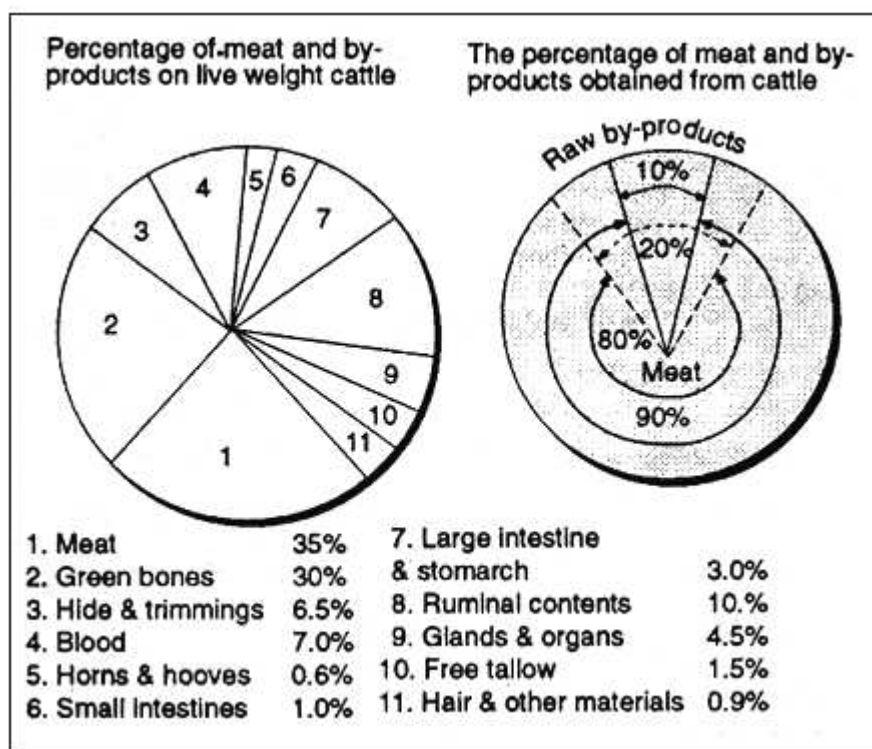
Excess stock problems tend to develop because of relatively high producer prices which the governments of the countries concerned establish in order to compensate farmers whose cost for production are high. Unfortunately, these systematic increases in the producer prices usually bring them to levels that are incompatible with international supply and demand conditions. To reduce the effect of these high producer prices some governments in LDCs introduced artificial exchange rates that later did more harm than good to the export economy of these countries. In addition, local demand was low, being limited to only urban demand, for human consumption, and for livestock feed production in rural areas.

Fluctuating grain supply problem results from the crop's susceptibility to weather conditions which determine the level of harvest and, therefore, the export market supply. With each country's domestic demand often varying along with the weather, LDC countries have been known to rapidly move from a surplus to a deficit situation. In a country with high import parity and low export parity prices, the increased risk of stockpiling seems to lower the real cost of storing the excess stocks and so causes government to become indifferent toward streamlining supply with demand requirements. Low levels of intra-regional trade between developing countries is explained by subsidies paid to producers. This masks any competitive advantage in grain production that growers in one country may have over those in neighbouring countries. Where there is intra-regional trade in grains, between developing countries it is most often based on periodic shortages arising from drought civil strife. As such, export demand is usually short-lived and often financed by donor agencies, and the exporting country cannot make any long term plans to develop the trade.

Livestock and meat marketing

At the outset of this chapter it was observed that in an introductory textbook, such as this one, there were severe constraints on the range of agricultural commodities which could be discussed and that the author had to be highly selective. This is equally true of this section where the reader will find that the discussion is largely confined to livestock and meat. There simply is not the opportunity to extend the discussion, in this textbook, to the wide variety of animal by-products that could be exploited after the meat has been utilised. The figure⁷ below lists the most important categories of by-product and reveals that these account for almost two-thirds of the live weight of an animal. The recovery, processing and effective marketing of these by-products can make a significant difference to the level of returns to producers and, therefore, they are worthy of discussion. Perhaps the only consolation is that the same figure also shows that the meat component of an animal typically accounts for eighty to ninety percent of its value

Figure 6.2 The economic importance of animal by-products



In this section the livestock under discussion are cattle, pigs, sheep and goats. Poultry is treated separately because the structure of this subsector, the scale of operation and methods of production are distinctly different from larger farm animals.

Producer attempts to adjust livestock production in keeping with demand often result in adverse market effects. The problem for livestock farmers is the inevitable lags, between changes in demand and adjustments to supply. In order to expand meat supplies in response to anticipated increases in demand, livestock producers must channel animals into the breeding herd rather than the market. This pushes up meat prices over the short run. Conversely, when prices fall farmers try to reduce production levels by selling off animals. The sell off increases meat supplies and further reduces prices over the short run. Profits are further squeezed by the increase in costs in the form of additional storage and interest charges. This practice of adjusting future production according to present day prices, results in marked output and price peaks and troughs. Periodically livestock prices drop below production costs and this retards the industry since producers become discouraged.

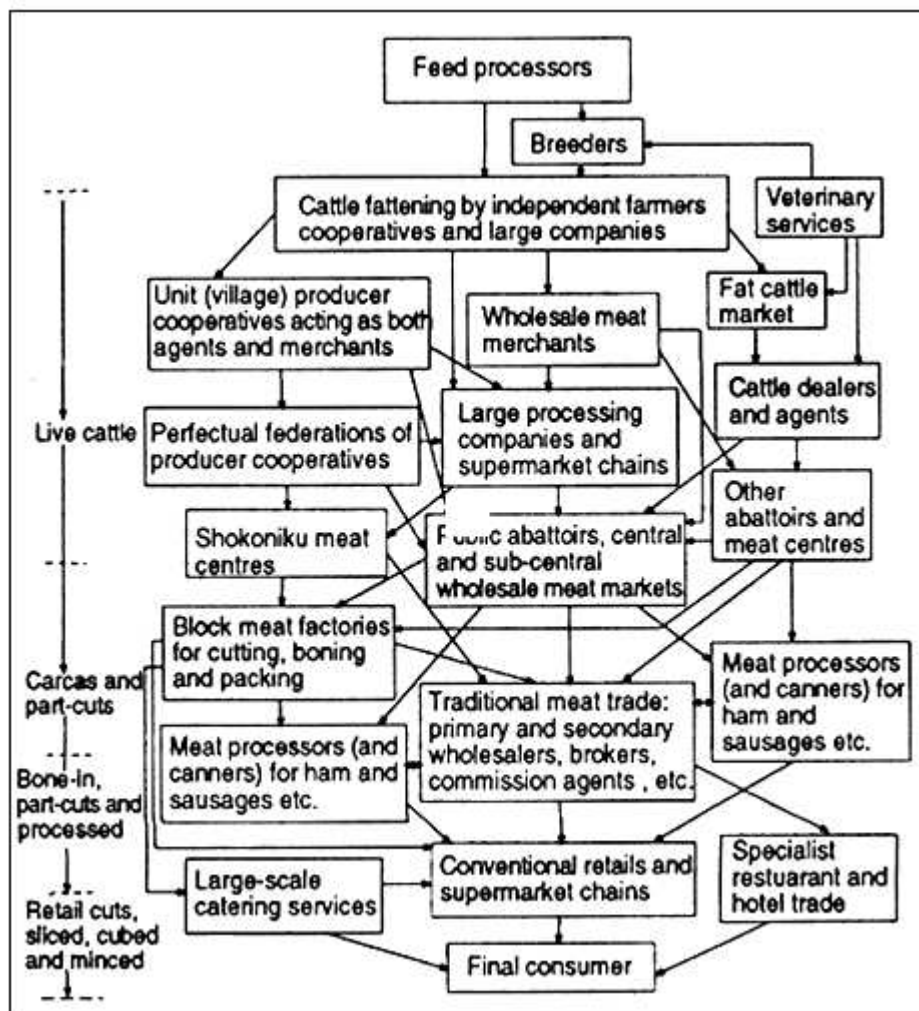
The links between livestock and grains, with reference to both production and marketing, are close and direct. Kohls and Uhl⁸ observe that:

“Livestock are protein converters, transforming vegetable protein into animal protein. These ‘protein factories’ are a form of food processing. Moreover, livestock feeding can be viewed as an alternative way for the grain farmer to market grain.”

Thus, relative prices between grains for human consumption and that of animal feeds will have a direct bearing upon one another. Moreover, the price of grains converted to feed will influence the costs of meat production and, therefore, the price of meat. These interrelationships are as important to government policy makers as they are to the participants in the livestock and meat marketing systems. In many parts of the developing world governments commonly inflate producer prices for grain, often above those on world markets, in order to encourage production. Consumers may or may not be compensated through food subsidies but unless feed processors are also subsidised the price of meat is likely to increase.

The complexity of livestock marketing systems varies greatly. In the most sophisticated systems there is a high degree of specialisation in the production and marketing of livestock and meat as there is, for example, in the case of beef consumed in Japan (see Figure 6.3).

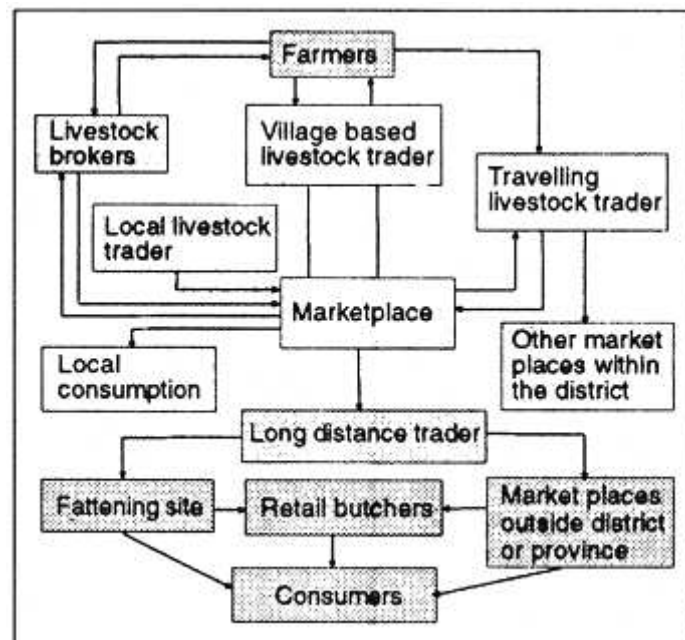
Figure 6.3 The high degree of specialisation in Japanese cattle and beef marketing system



The various operations involved in livestock production and marketing could be performed by one farm and in many countries mixed farming, i.e. grain-livestock, is common place. Alternatively, breeding, fattening, slaughtering and packing can be undertaken by specialised farms and other forms of agribusiness. Specialisation in production and marketing, helps in achieving economies of scale, increases the return-on-investment and allows the enterprise to become highly experienced in a narrow range of activities. This should mean that the consumer is supplied with high quality products at affordable prices. It also means that because a producer is only involved in a narrow. At the same time, specialised livestock and meat marketing systems are characterised by longer channels and a high degree of complexity. Thus, there has to be good communications and a steady flow of relevant information between market participants if they are to operate effectively as a system. In countries where the communications infrastructure is poor or marketing information systems have not been put in place it would be difficult for the system to become highly specialised.

In contrast to the highly specialised and complex livestock and meat marketing systems to be found in countries like Japan, there are much simpler, shorter and less sophisticated channels such as that of Indonesia's marketing system for small ruminants¹⁰.

Figure 6.4 Indonesia's marketing system for small ruminants



The Indonesian livestock and meat marketing systems is simpler because some of the production and marketing functions are combined and carried out by fewer enterprises and some are not carried out at all. For instance, there is no formal animal feed sector at the production end and the slaughtering, cutting and boning is often done by the consumer. Put another way, the production and marketing system is shorter, and simpler, because it offers fewer services to both producers and consumers. As disposable incomes increase, in developing countries, meat consumption tends to increase too and the demand for additional services gains in strength. According to Knipscheer et al.,¹¹ this is precisely the pattern which is emerging in Indonesia.

One major difference between the Japanese and Indonesian livestock systems is that in the case of Indonesia, there is no nationally integrated livestock and meat marketing system. The system just described pertains specifically to the East Java region. However, Knipscheer et al., have identified a trend towards a nationally integrated livestock marketing system in Indonesia. Knipscheer et al., state that where there is a strong correlation between marketing margins and distances from the primary area of supply then this represents compelling evidence of a high degree of market integration.

Assembly of livestock and meat

Depending upon complexity of the particular marketing system cattle are assembled to serve one of the following purposes; for slaughter, for fattening or for breeding herds. There are various types of livestock assemblers and assembling institutions.

Farmers	The level of farmer-to-farmer trade can be substantial. Where there is a degree of specialisation within the livestock and meat marketing system, for example when some farmers concentrate on breeding or fattening, amount of farmer-to-farmer trade can be very high.
Rural traders	Usually these are independent entrepreneurs. As described in the reference to Indonesia's small ruminant marketing system, these may have established business premises or simply travel around a defined geographical territory buying from farmers and selling on to fatteners, auctions, order buyers, abattoirs or terminal markets.
Local cooperatives	Function largely as shipping agencies, collecting small lots from producers and shipping them forward in economic sized batches to terminal markets. Some have diversified and offer a broader range of services and often merchandise their livestock direct to packers and other buyers.
Order buyers	Purchase fattened stock on behalf of abattoirs and meat processors, from farmers, local traders, auctions and terminal markets, in return for a fee.

Commissioning agents	Do not take legal title to the livestock but obtain a commission when they make a sale.
Auctions	Public auctions offer livestock or deadweight meat for sale to the highest bidder. Auctions are almost exclusively attended by the trade and not the general public. In some countries there may be various types of auctions operating. Some auctions serve breeders and those wishing to procure animals for fattening. Other auctions are attended by retail butchers, meat packers, traders etc.
Terminal public markets	Large central markets which both the trade and the public may patronise. The municipal authority or private organisation providing the facilities of the market does not engage in trade but profits from charging fees for the use of these facilities. Farmers, and others, may trade on their own account in these markets or may appoint commissioning agents.
Meat packers	Some packing plants are located near terminal or auction markets and have their own cattle buyers. These have combined the assembly and processing functions.

The grading of livestock and carcasses

At the primal level, there are three dimensions to grading. The first, relates to the differing values attached to cuts of meat and the second to the quality of those cuts. The third dimension is that of carcass yield. The first of these classes of criteria is, in some measure, objective. Depending upon the country and the culture, different parts of the animal are more favoured than others, or are in shorter supply, and therefore attract higher prices. The measures of meat quality, and even yield, are rather more subjective.

Case 6.2 Botswana's Meat Commission Makes The Grade

Many articles, reports and studies have been written on the Botswana Meat Commission (BMC). The consistent message has been a model, for the developing world, of how to establish and maintain standards of excellence within the beef industry. Beginning in 1958 as a single slaughterhouse, BMC has developed into an international business with a turnover in excess of US\$100 million per annum. Most of BMC's reinvestment in its business comes from its own resources, the Commission pays premium prices to local producers and is a major contributor to the national treasury.

The success of BMC is based upon the establishment of an efficient internal marketing system, maximum utilisation of the animals, strict and independent grading standards that meet international specifications and investment policies which ensure that a significant proportion of earnings are channeled back into the business.

Botswana is a semi-arid country. whose population is concentrated in the eastern region. Half of the country's 600,000 square km is tribal land, only 4% is freehold and the remainder is state-owned; being mainly dry and having little livestock. Tradition has mitigated against the fencing but the government has been bold enough to tackle this sensitive issue because it sees that fencing is necessary to control the movement of diseased stock. Outbreaks of foot and mouth disease, which have occurred from time-to-time, have largely been kept under control by BMC's stringent animal health controls. Such outbreaks draw a halt to exports and only 20% of Botswana's beef is consumed within the country

BMC is able to maintain a steady flow of cattle through its abattoir through a quota system. Producers have to apply for a

quota and are heavily penalised if they fail to meet their agreed quota. Enterprising agents have emerged to provide services to producers including the obtaining of quotas and arranging rail transportation. These agents have been instrumental in organising farmers with only one or two animals to sell, into groups so that shipments achieve minimum economies of scale. Co-operatives are also active in supplying cattle to BMC.

BMC buys livestock according to deadweight and grade. Independent grading is carried out by employees of the veterinary services. Animal movements are strictly controlled. BMC helps farmers plan ahead by publishing prices for each 4 week period. To maintain a steady flow of beasts through the abattoir in the low season, BMC offers high prices from October through February.

Commodity markets tend to be highly elastic and the international beef market is no exception. Moreover, it is a highly competitive market. BMC's policy is to perform as much processing in the country as possible and to process as much of the animal as possible. Live exports were stopped in 1967. Therefore, Botswana exports a full, range of by-products including tallow, bonemeal, bloodmeal, hides, hoofs, horns etc. Both fresh and frozen meat are also exported along with meat products like corned beef.⁹

With respect to the second dimension of meat value i.e. the quality of the meat the European Union's carcass classification system illustrates the point. This system gives particular importance to the shape of the carcass, known as conformation-, and the amount of fat in the carcass. Conformation influences the meat yielded by a carcass and the trend in Europe is towards reducing the amount of fat in human diets and so the classification systems for meats rate low fat carcasses higher than those with greater amounts of fat. The European system recognizes seven categories of fatness (categories 4 and 5 being subdivided into higher and lower), and eight categories of conformation. The leanest carcasses would be in category 1 and the best conformation class is E.

Figure 6.5 Beef carcass classification in the European Union

	Fat class						
	1	2	3	4L	4H	5L	5H
Conformation class	E						
	U+						
	U-						
	R						
	O+						
	O-						
	P+						
	P-						

The idea of the EEC's carcass classification system is that it enables the marketplace to send clear signals to producers with respect to the type of carcasses the market wants. Figure 6.6 shows how conformation and fatness combine to influence the amount of salable meat in a carcass, in percentage terms. The data was compiled by the UK's Meat and Livestock Commission (MLC) using standard methods of butchering and trimming. For simplicity, data is

given here for only conformation class R and fat class 4L.

Figure 6.6 The EU's carcass classification system: conformation, fatness and percentage yield of salable meat

		Fat class				
		1 & 2	3	4L	4H	5L & 5H
Conformation class	E & U+			72.4		
	U-			71.7		
	R	74.5	72.5	71.0	70.0	67.5
	O+			70.3		
	O- & P			69.3		

The MLC have also provided illustrative data to show the price differentials, expressed as percentages, that are paid to producers supplying various grades of carcass.

Figure 6.7 The EU's carcass classification system: conformation, fatness and percentage price differentials

		Fat class				
		1 & 2	3	4L	4H	5L&5H
Conformation class	E & U+			+4.2		
	U-			+2.1		
	R-	10.5	+4.5	Base	-3.0	-10.5
				-2.1		
	-O & P			-5.1		

The figures show that in these markets, fatness has a greater influence on price than conformation. Nevertheless, livestock and meat grades and their usage by the trade are often cited as a major problem for developing countries who find it difficult to meet the specifications. However, as will be seen in case 6.2, Botswana Meat Commission (BMC) has managed to do so and profits greatly as a result.

Meat packers purchase most of their livestock on a live weight basis. This requires buyers to estimate the carcass yield and quality of live animals in order to arrive at an offer price. Buying is an art rather than a science, and there can be significant variations in buyer and seller estimates of the value of a particular animal. This is a frequent source of conflict in the livestock marketing channel. Moreover, the fact that reliable judgments of livestock can only be acquired over a period of years, can act as a barrier to competition since the inexperienced are effectively barred from entry to the distribution channel.

For some products, grades are established in the processing plants. This is the case with meats such as fresh poultry, beef, and pork. The government installs graders in the cattle auction floors on a fixed-fee basis; the fees collected cover the salaries and other costs incurred by the

government in making the service available.

Livestock and meat processing

In contrast with all other sectors of the food industry, the meat packing industry is a process of disassembling. Whilst other food manufacturers combine simple raw materials into a complex, composite product, meat packers breakdown a complex raw product-livestock-into its constituent parts. This reverse manufacturing process nevertheless adds form utility to livestock products. An animal carcass is in reality a bundle of products, each with different markets, demands and values. On average somewhere between fifty five to sixty two percent of a beef animal's live weight is recovered as meat products. For a pig's carcass the figures are seventy to seventy five percent. The carcass yields other by-products of course such as hides, pelts, lard, offal, fertilisers and industrial products.

In some tropical countries slaughtering facilities are closely supervised by government appointed inspectors. This is not so much a system of quality control as a measure to ensure that only disease-free animals are introduced into the human food system.

Livestock and meat consumption

Meats are a versatile food representing a variety of consumer attributes. Meats can be purchased ready to eat, ready to cook or in forms requiring substantial preparation. Most meat is sold fresh, in LDC's, but increasingly such processed items as canned meats are becoming available and these are giving the consumer additional choice. Food processors can combine meats with other foods to add further to consumer choice.

The income elasticity of demand for beef in particular, and other meats in general, tends to be strongly positive in LDCs. As per capita incomes rise in developing countries, the demand for the principal livestock products meat, milk and eggs also rises. Abbott¹² quotes the example of Iran when the population was growing at just under three percent and disposable incomes at five percent. In the same period meat demand rose at around nine percent per annum.

Over the past 30 years livestock populations have grown substantially in LDCs as both disposable incomes and the populations themselves have grown. Indeed, the developing countries have larger numbers of livestock than the developed countries but they produced only one-fifth of the world's meat, milk and eggs. Moreover, a smaller proportion of stock are slaughtered each year and yields per animal are generally much smaller in the developing world. In addition to rising incomes, the rate of urbanisation is a fundamental influence upon the demand for livestock food products. An example, again supplied by Abbott, is that of Dar Es Salaam where urban expansion of eight percent doubled meat demand within nine years.

However there are constraints to the development of livestock industries in developing countries in the form of traditional techniques of food preparation and shopping behaviour. In many cultures it is customary to cook meat for a very long time, especially if the favoured dishes are curries and stews and in these circumstances little interest is shown in paying premium prices for more expensive cuts of meat. Therefore in many Asian and African countries butchers have no incentive to add value to the product by dividing the carcass into various consumer cuts. Moreover, the wealthier members of LDC societies often leave the shopping to servants and basic retailing techniques continue to be acceptable. In the tropics the preference is for freshly killed meat.

Religious factors may also have some bearing on purchasing behaviour. Muslim countries importing from non-Muslim countries frequently prefer to receive supplies on-the-hoof to ensure that Halal methods are employed in the slaughtering methods. Demand for meat tends to be highly seasonal in tropical countries. It is greatly affected by religious festivals like Ramadan, the feast of the Id (Moslem festival) and by the sale of cash crops in places like Ethiopia and Nigeria where demand rises significantly following the coffee and groundnut harvests.

Case 6.3 Developing Zimbabwe's Small Scale Poultry Sector

Zimbabwe's poultry industry is typical of that of many developing countries with two distinct strata: the commercial sector, employing modern and sophisticated husbandry, and the small scale sector which produces eggs and meat from bought-in day-old chicks for the family and local market. In 1985 the industry's value was Z\$45 million, split 70:30 in favour of the commercial sector over the much smaller but rapidly expanding small scale sector. Some 80 commercial broiler producers were in business in the mid-80's, but two of these produced over 70% of total production. Four of the largest broiler producing companies are vertically integrated i.e. breeding, compounding their own feed, fattening the birds and marketing them. The trend in the commercial broiler industry is towards production becoming increasingly concentrated and the technology increasingly sophisticated. Commercial egg production in Zimbabwe is also concentrated there are only around 140 producers, supplying just over 11 million dozen eggs per annum.

Most rural farmers produce poultry primarily to feed their own families, with small, and irregular, surpluses being made available on the local village markets. Local markets tends to be limited and easily saturated and the internal market inefficient and incapable of providing reliable outlets for poultry products. Because of the costs involved in production and marketing very few farmers are willing to produce poultry without the security of a contract with a processing firm.

From independence in 1980 onwards, the situation in the rural areas began to change with increased availability of credit and extension services to the small scale sector. There are signs that these measures are having an impact on the poultry sector. There has, been a 300% increase in the number of day-old chicks purchased by the smallholder sector over a 12 year period. The large increase in communal broiler production is confirmed by the stockfeed industry whose sales to this sector have increased remarkably since 1980. Nonetheless, a good deal remains to be done. Eggs still tend to be sold locally and average egg production per hybrid bird is only 175 eggs per year. This is poor by commercial standards where 300 eggs per bird are achieved. This is because smallholders are still, in the main, using rudimentary husbandry and production methods and technologies. That is, the majority of the smallholder sector is still at stage 1 of Sugiyama's 5 stage model and a small number have progressed to stage 2. It would appear that much of the credit made available through government programmes has been spent either on day-old chicks or on consummables such as imported feedstuffs, vetinary products etc. There has been no significant improvement in the level of investment in capital equipment by communal farmers. Moreover, the small scale sector continues to comprise a large number of small production units of 50-100 birds.

Poultry and eggs marketing

Poultry farmers have three distinct types of bird from which to select their flocks:

Hybrid broilers

In addition to pure chicken breeds, specialised breeders sell chickens which are first crosses and multiple crosses The latter are known as hybrids. These gain weight more quickly and lay more eggs than pure

breeds and are therefore generally used by poultry producers. They are only suitable for commercial food production, having an excellent food/meat conversion ratio. Mature females should weigh in excess of 2.75 kg. Young broilers mature rapidly and are ready for market at 12 weeks of age.

Dual purpose birds These give good carcasses when slaughtered but only moderate egg production. A mature female can be expected to weigh around 2.25 kg. This type of bird has the advantage of rarely exhibiting cannibalism and is hardy against disease. However, they do tend to go broody and egg production, consequently, can fall off. Dual purpose birds are often recommended for farmers new to poultry keeping. Their lower yields, both in meat and eggs, is offset by their hardiness in relation to disease resistance and poor weather.

Lightweight birds These are bred for egg production. Lightweights have excellent food conversion rates and rarely go broody. However, they do need good management and, therefore, are only recommended to experienced poultry keepers. They are a nervous bird and inclined towards cannibalism. A mature female is likely to weigh less 2.25 kg.

Sugiyama¹³ suggests that poultry enterprises pass through distinct stages of development. These are outlined in the following figure.

Table 6.2 Development stages of poultry enterprises

Item	1st Stage Backyard poultry	2nd Stage Farm flock	3rd Stage Commercial poultry farm	4th Stage Specialised egg production	5th Stage Integrated egg production
Subdivision of egg production	Day-old chick pullet growing feed production, mixing culled hens egg and manure integrated on farms	Hatchery production separate from farming	Feed production separate from poultry farms	Chicken meat production becomes independent of poultry production in the form of the broiler industry	Separate enterprises re-integrated as a business
Main management characteristics	Natural hatching	Artificial hatching and sexing	Feed mixing	Egg processing plant	Controlled environment houses
Type of farming	Subsistence farming	Mixed farming	Joint egg and meat production	Eggs industry (single commodity)	Egg complex
Labour	Part-time	Part-time	Full-time	Division of management of labour	Separate daily work and random work
Building	Free range	Water feeder	Water feeder	Manure disposal equipment	Egg belt automatically controlled house

Within the developing world, poultry and egg businesses may be found at all five stages of development, although numerically there are likely to be more at the first and second stages. Among peasant farmers' poultry are allowed to find their own food and water and roost where they can in the family compound. Under these conditions, it is not surprising that productivity is low and mortality rates among the birds is high. Commercial broiler and layer enterprises need to have a much higher level of technology and management. However, they too have their problems. In developing countries, commercial producers are reliant, to varying extents, upon expensive imports of breeding stock, i.e. hatching eggs and/or day-old chicks, animal health products and vitamin and mineral additives for compound feeds.

Assembly of poultry and eggs

It is the case, in most developing countries, that the poultry and egg sector is highly fragmented. Production is, for the most part, carried out by a large number of farmers, each with a very small flock. A minority of farmers have sizeable flocks. Much of the production is sold on markets in the immediate vicinity of the farm.

Egg grading

The principal external features of an egg, which collectively determine its quality are shell texture, colour, shape and condition. In some countries standards have been established for each of these external physical features for an egg. The internal condition of the egg is also of interest when assigning a grade to eggs. These include the position of the yolk within the shell and its colour; the extent of blood spots, if any, and the translucence and firmness of the albumen (white). Egg shells are porous and so another internal feature, which is critical to the quality of the egg, is the size of the air cell inside the shell. Eggs which are stored or transported in high temperatures allow a great deal of moisture to escape. This results in an enlarged air cell and consequent loss of weight. Stewart and Abbott¹⁴ report that, in the Sudan, for example, the extremely high summer temperatures can spoil up to forty percent of the eggs before they can be consumed. In other cases, the problem is not one of a total crop loss but of quality losses that may not become apparent until the egg is used by the consumer.

The internal condition of an egg can be established using destructive or non-destructive tests. The most accurate interior test is to break the egg open on to a glass so that the contents can be inspected. This of course would be done on a sampling basis. Alternatively the non-destructive test of candling can be applied. This simply involves holding the egg before a strong lamp so that the position of the yolk, size of the air cell etc can be seen. By spinning the egg, in the hand, the solidity of the albumen can also be observed. Stewart and Abbott illustrate the kind of quality specifications which might be established as follows:

First grade	The shell must be clean, unbroken and practically normal in shape and texture. The air cell must not exceed 9.5 mm in depth and may move freely but not be broken or bubbly. The yolk may appear off-centre but only slightly enlarged, and may show only slight embryonic development. No foreign objects may be present.
Second grade	The shell must be unbroken but may be somewhat abnormal in shape and texture. Only slight stains and marks are permitted. The yolk may appear dark and enlarged and may show embryonic development but not at the blood vessel stage or beyond. Blood spots less than 6 mm are permitted.
Third grade	Other edible eggs, that is, those not rotted, sour, mouldy or musty; not incubated to the blood vessel stage, not containing insects, worms or blood spots 6 mm in diameter, or diffused blood.

This suggested grading scheme underlines the fact that the assessment of egg quality is comprised of both objective and subjective measures. Nonetheless, like all grading schemes, for whatever agricultural commodity, the benefits of implementing a systematic and widely understood method of describing the essential attributes, of the product, would be that sales can take place without personal inspection, disputes are more easily settled and more precise price and supply information can be made available.

Poultry grading

The weight of a poultry carcass is a primary attribute when grading the bird. The weight of the carcass will vary by breed, sex and age. It will also vary in accordance with the feeding regime of the bird. The eating quality of poultry meat is of particular concern to consumers. Meat tenderness, juiciness and flavour are the key criteria of quality in which consumers have an interest. Skin colour is another determinant of quality but the preference for white or yellow carcasses varies around the world.

The quality of poultry meat is greatly affected by methods of production. The nature of the feed used has a major influence on the final product. Balanced rations high protein and energy sources such as whole grains and fats, growth promoters such as antibiotics, chemical additives

and vitamin supplements. Overcrowding and a lack of veterinary care slows the rate of growth of the birds and increases the incidence of disease and infestation by parasites which, in turn, adversely affect the quality of dressed poultry. In the tropics, climatic conditions make it unsafe to keep poultry carcasses, for more than a few hours after slaughter. For this reason, as well as traditions and culture, consumers generally prefer to buy live or freshly slaughtered birds.

In the industrialised countries detailed standards and grades for dressed birds (i.e. feathers and blood removed) have been established. These grading systems take account of conformation of the carcass, the presence of pinfeathers, skin condition, integrity of bones, and carcass colour/discolouration. However, in most developing countries grading is more informal, less systematic and more subjective. Possibly the two most important 'quality' criteria, in the tropics, are age and sex. Younger birds, although lighter, generally enjoy a price premium over older poultry. In the same way, female birds are more highly valued than male birds of the same age. These criteria apart, market intermediaries usually catch a sample of the birds on offer and feel the breast flesh through the feathers and make a professional judgement as to the consumer appeal of the bird.

Opportunities to apply uniform quality standards depend upon the widespread availability of refrigeration. Live birds are difficult to classify save in the most general of ways; age range, sex, type and subjective evaluation through the handling of the bird. Poultry carcasses are much easier to classify with accuracy. Hence the statement that a prelude to the implementation of uniform grading standards is the sale of carcasses becoming commonplace and this can only happen when refrigeration is equally commonplace. Another barrier to the adoption of standardised grading procedures is the size of the poultry enterprise. The great majority of poultry farmers, in developing countries, are small-scale businesses and therefore unlikely to spare the time, or have a suitable staff member capable of learning how to assess poultry quality in a consistent and systematic fashion. Thus the diffusion of standardised grading also depends upon the structure of the industry within a given locality. In geographical areas where producers are predominantly small-scale, it is unlikely that there will be sufficient impetus to develop grading standards.

Poultry and eggs consumption

In the industrialised world poultry, and to a slightly lesser extent eggs, are less of a commodity than they were at one time. Originally these products exhibited a high degree of homogeneity but producers have since differentiated both of them. By manipulating the feed given to poultry, producers have been able to alter the taste characteristics and the appearance of the birds. Poultry has also been differentiated by the way they are preserved, by offering different cuts of the birds, by pre-cooking, coating in bread and in a variety of herbs. With product differentiation producers and food manufacturers have taken the opportunity to brand their poultry and poultry products. The differentiation of eggs has chiefly centred on boxing the eggs and branding them. Some producers, and more particularly food companies, operating in developing countries, have followed suit and have differentiated their poultry products. Eggs, however, continue to be marketed as an undifferentiated commodity.

The marketing of fresh milk

Whilst milk can be converted to a range of dairy products, such as cheese, butter, yogurt, dried powders etc., these are not commodities. It is generally the case that the processing of milk into these products involves a measure of product differentiation. That is, the methods, techniques and technologies, used in manufacturing dairy produce, tend to impart unique characteristics to the finished product. For this reason only milk will be discussed in this chapter.

Milk is an extremely important human food. Not only is it a relatively cheap source of protein, it is also rich in minerals such as calcium and vitamins A, D and B2. The quality of milk is usually judged according to its butterfat content. In addition, buyers are also concerned that it should be free from diseases like tuberculosis.

The relationship between beef and dairy production is an important one. In many countries, beef production is subsidiary to dairy production with sometimes as much as sixty to seventy percent

of cattle sold for beef being animals culled from the dairy herd. This can have a significant influence on the characteristics and quality of red meat products since breeds and production methods which give the best milk yields rarely give corresponding results in terms of beef production; or vice versa. In Europe, for example, Friesian cows are a popular breed for milk production. It has been discovered that by crossing the Friesian with the Canadian Holstein, milk yields can be increased substantially. However, this cross-breed gives relatively low meat yields and a meat of inferior palatability. The relationship between the beef and dairy sectors is reversed in some countries. For instance, in Kenya milk production is more a by-product of livestock rearing. Whether it is dairy production which influences beef production, or the reverse, the important point is that the products of one will be determined, to some extent, both in form and quality, by what happens in the other sector; product development and technological change in one will have implications for the other.

In all parts of the world milk production is seasonal but the peaks and troughs are higher in the tropics. Production in the tropics peaks just after the rains when there is lush pasture available and progressively declines the further into the dry season. As in the case of beef production, milk producers have to take into account the lengthy biological lags when trying to match the supply and to the demand for liquid milk. When there is an over-supply of milk then it might be possible to channel some of the excess into making butter, cheese, yogurts and other processed dairy produce. However, the market for these products is finite too and although dairy products can be stored longer higher levels of capital are tied up and interest charges are higher for storing these value added products, in comparison to milk.

Assembly of fresh milk

In the case of fresh milk, the assembly level resembles that of poultry. Milk goes directly from dairy farms to the processing plant. Bulk tanker trucks, visit farms on a regular schedule and collect the milk. It is then moved to a processing plant. Hauling may be done either by the dairy company's own vehicles or by independent truckers under contract to the processor or the dairy farmer.

The collection of milk is most often undertaken either by a marketing board or a cooperative. In the case of marketing boards many of these are now being turned from loss making parastatals into commercial enterprises under economic structural adjustment programmes (ESAP). In the foreseeable future some of these boards will be privatised either in whole or in part.

The transportation of fresh milk

Whilst the tankers which carry the chilled milk from the farm to the factory are becoming ever larger the major constraint remains that of the inadequate road infrastructure. During the wet season many roads become impassable and the milk simply is not collected.

Whereas the trucks used to transport other agricultural commodities can be used to move a variety of different types of product, milk tankers cannot. This affects the economics of milk transportation. A haulier moving grain in one direction can often get a return load since the type of truck used can carry any kind of aggregate; be it an agricultural commodity or some other load such as backfill for road building. Milk tankers, by contrast, travel empty in one direction and full on the return journey.

Fresh milk grading

Fluid milk is usually separated into at least two grades. For the purposes of this discussion these will be referred to as grades A and B. Grade A would be passed as fit for human consumption. Grade B would be passed only for use in processed dairy products. Grade B milk is processed at much higher temperatures than fluid milk passes through when being pasteurised and this is why it can be approved for human consumption, albeit if only in the form of processed dairy products.

In general fluid milk attracts higher prices than milk destined for use in processed products. In part, this is explained by the need to compensate market participants for the additional costs of marketing a highly perishable product and moving and storing a very bulky commodity. The

second explanatory factor is the fact that fluid milk has a lower elasticity of demand than do processed products¹⁵.

Kiranga¹⁶ outlines the tests carried out by Kenya Cooperative Creameries on raw and processed liquid milk. These are fairly standard throughout the world:

Raw milk obtained from farmers

Organoleptic test	This simply means that the sense of smell is used to detect sour odours and perhaps tasted too. Visual inspection reveals the presence of foreign matter
Lactometer reading	This test is conducted to detect any adulteration of the milk like the adding or skimming of fat
Resazurin test	The bacterial count of the milk is measured giving an indication of the standards of hygiene at the farm.
Butterfat	Fat content is the principal criteria used in deciding the level of payment to individual farmers. Raw milk is expected to have a fat content of at least 3.25%

Processed milk at the factory

Level of acidity	Not more than 0.15%
Butterfat content	Not less than 2.25%
Solids other than fat	Not less than 8.5%
Total plate count	Not more than 100,000 grams
Presence of califorms	Not more than 10 per gram
Efficiency of pasteurisation	Photophatase test

In many developing countries, milk processing has been monopolised by a marketing board or other state marketing agency. Even where markets are liberalised the structure of the milk industry has more often been oligopolistic rather than perfectly competitive.

Fresh milk consumption

In rural areas many households either own a cow to provide milk for their own households, and perhaps to make some informal sales to neighbours, or they will purchase milk from a local farmer. If there are localised cooling facilities, and health and hygiene laws permit, untreated milk will be made available in local stores. In Zimbabwe, the Dairiboard, helped establish cooling facilities in remote rural areas. In doing so, Dairiboard helped ensure that rural farmers could sell their milk locally and guaranteed rural consumers a supply of milk. The move also helped Dairiboard reduce its costs since it was previously charged with delivering milk to these remote territories. This involved high transport costs and low volumes.

In addition to these rural exchanges, four channels for distributing fresh milk can be identified, as follows:

Depot salesmen	Marketing boards, large cooperatives and large dairy companies often employ their own salesforce. These sales personnel operate out of depots.
Wholesalers	As the number of sales outlets increases there emerges a need for intermediaries to operate between the salesforce and retailers. This is what happened in Kenya as the number of small kiosks increased dramatically in response to urban growth. ¹⁷
Contractors	Contractors are appointed to routes which in most cases would be uneconomical for the marketing board, cooperative or dairy company to service itself.

Home deliveries In some urban centres there is a tradition of doorstep deliveries of milk. Following the commercialisation of Zimbabwe's Dairibord, this service was privatised. Appointed former employees of the board were sold delivery routes and thus became independent businesses in their own right..

In Middle Eastern and African countries, fermented milk rather than fresh milk has been the traditional food. This may be consumed as a drink or as a relish with cereal porridge. Even in this form, the main criteria of 'quality' has been the butterfat content.

Summary

Agricultural products whose production methods, postharvest treatments and/or primary processing have not imparted any distinguishing characteristics or attributes. Within a particular grade, and with respect to a given variety, commodities coming from different suppliers, and even different countries or continents, are ready substitutes for one another. This chapter describes commodity marketing processes. Five categories of commodity are discussed: grains, livestock and meat, poultry and eggs and fresh milk.

A commodity marketing system encompasses all the participants in the production, processing and marketing of an undifferentiated or unbranded farm product, including farm input suppliers, farmers, storage operators, processors, wholesalers and retailers involved in the flow of the commodity from initial inputs to the final consumer. The commodity marketing system also includes all the institutions and arrangements that effect and coordinate the successive stages of a commodity flow such as the government and its parastatals, trade associations, cooperatives, financial partners, transport groups and educational organizations related to the commodity. The commodity system framework includes the major linkages that hold the system together such as transportation, contractual coordination, vertical integration, joint ventures, tripartite marketing arrangements, and financial arrangements. The systems approach emphasises the interdependence and inter relatedness of all aspects of agribusiness, namely : from farm input supply to the growing, assembling, storage, processing, distribution and ultimate consumption of the product. The stages of commodity marketing are: assembly, transportation, storage, grading and classification, processing, packaging and distribution and retailing.

The principal participants in grain marketing are producers, marketing boards, grain elevators, brokers, millers, livestock farmers, animal feed processors, millers, other food manufacturers, grain exchanges and exporters. A common feature of grain marketing systems is the co-existence of government marketing agencies and a parallel private marketing channel. In the post-market liberalisation era many of these parastatals have either been disbanded or have been assigned a specialised role such as acting as the buyer-of-last-resort or maintaining food security reserves.

Whether storage takes place on the farm or in silos off the farm, increases in the value of products due to their time utility must be sufficient to compensate for costs at this stage, or else storage will not be profitable. Under market liberalisation, some grain marketing parastatals have suffered substantial falls in the volumes of grains which they are handling and a number of marketing parastatals now rent some of their storage capacity to farmers, grain traders and other participants in the grain marketing system. Two types of storage facility, are commonly found: the bulk storage facility where cereals are stored in concrete and/or metal bins, and the bag storage facility where the crop is stored under tarpaulin sheets. Grading usually takes place in the grain store. Grades and standards contribute to operational and pricing efficiency by providing buyers and sellers with a system of communicating price and product information. However, grading standards for domestic markets must originate from the industry itself as and when it becomes apparent that the consumer is willing to pay a higher average price for the sorted product.

Amongst the major challenges to grain marketing systems in developing countries are: rationalisation of storage facilities in terms of their location, readjustment of farmer prices to accurately reflect production and marketing costs,

Attempts by livestock farmers to adjust production to the prevailing demand are often frustrated by the lags, between changes in demand and adjustments to supply. Meat prices increase as

producers withdraw animals in the short term to build up supplies in the long term. Conversely, when prices fall and farmers selling off animals to reduce production levels the act of doing so further depresses prices.

Grains for human consumption and those for animal feeds have a direct bearing upon one another. Moreover, the price of grains converted to feed will influence the costs of meat production and, therefore, the price of meat. These interrelationships are as important to government policy makers as they are to the participants in the livestock and meat marketing systems.

The major players in livestock marketing are rural traders, local cooperatives, order buyers, commissioning agents, auctions, terminal public markets and meat packers. The systems of grading beef cattle and carcasses vary by culture but may include carcass shape, fat content and meat yield. The assessment of these and other criteria is usually subjective.

The income elasticity of demand for beef in particular, and other meats in general, tends to be strongly positive in LDCs. As per capita incomes rise in developing countries, the demand for the principal livestock products meat, milk and eggs also rises. However the development of livestock industries in developing countries is sometimes constrained by the form of traditional techniques of food preparation and shopping behaviour. In many cultures it is customary to cook meat for a very long time, especially if the favoured dishes are curries and stews and in these circumstances little interest is shown in paying premium prices for more expensive cuts of meat and butchers have no incentive to add value to the product by dividing the carcass into various consumer cuts.

The poultry and egg sector is highly fragmented in most developing countries. The principal external features of an egg, which collectively determine its quality are shell texture, colour, shape and condition. The internal condition of an egg can be established using the non-destructive tests of candling. Of particular importance are the position of the yolk within the shell, yolk colour; the extent of blood spots and the translucence and firmness of the albumen and the size of the air cell inside the shell.

The weight of a poultry carcass is a primary attribute when grading the bird. The weight will vary by breed, sex, age and in accordance with the feeding regime of the bird. The eating quality of poultry meat is expressed in terms of meat tenderness, juiciness flavour and skin colour. Poultry is less of a commodity than it was at one time.

There is a close relationship between beef and milk production. In many countries, beef production is subsidiary to dairy production with sometimes over two-thirds of cattle sold for beef being animals culled from the dairy herd. The breeds and production methods which give the best milk yields rarely give corresponding results in terms of beef production; or vice versa. Milk production is seasonal with peaks just after the rains when there is lush pasture available and a progressive declines the further into the dry season. Assembly is simple and direct with milk going direct from dairy farms to the processing plant. Milk collection is usually undertaken by either a marketing board or a cooperative. In general fluid milk attracts higher prices than milk destined for use in processed products. This is due to the additional costs of marketing a highly perishable product and moving and storing a very bulky commodity. The second explanatory factor is the fact that fluid milk has a lower elasticity of demand than do processed products.

Key Terms

Auctions	Grades	Order buyers
Candling	Grain elevator	Parallel markets
Commissioning agents	Market integration	Primary processing
Commodity	Meat packers	Terminal markets
Conformation		

Review Questions

From your knowledge of the content of this chapter, briefly answer the questions below.

1. According to Knipscheer et al., what evidence existed to suggest that there was a trend towards integrated markets for small ruminants in Indonesia?
2. What are the principal advantages and disadvantages of bulk over bag storage of grains?
3. Explain the role of an order buyer.
4. What are the main determinants of the tenderness, juiciness and flavour of poultry.
5. What does a Resazurin test measure?
6. Name as many of the 8 stages of commodity marketing as you can and in their sequential order, as presented in textbook.
7. What are the particular problems that livestock farmers face when attempting to adjust the supply of their products to the prevailing levels of demand?
8. Name the criteria used in classifying or grading beef carcasses within the European Union.
9. Explain the term 'candling'.
10. Why does fluid milk attract higher prices than that destined to be used to make cheese, yogurt and butter etc.
11. How is the quality of milk assessed?
12. What is meant by the statement, "The income elasticity of demand for beef in particular, and other meats in general, tends to be strongly positive in LDCs"?

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Chapter 7

Product Management

One of the most important concepts in marketing is that of the marketing mix. The elements of this mix are: pricing, the product, promotion and distribution. By altering one or more of these ingredients changes the nature of the market offering. The challenge to marketing management is to find the mix which simultaneously optimises customer utility and help the organisation achieve its objectives. Discussion of the four elements of the marketing mix begins, in this textbook, with an account of product management decisions. Having stressed the need to move away from a product orientation in the opening chapter, it therefore may appear to be a contradiction to deal with the product first among the four elements since this implies an order of priority. However, although the product is only one part of the overall marketing mix, decisions about the other three elements, price, promotion and distribution, centre around the product offered. Thus, there is a natural logic in beginning the discussion of the marketing mix with the product.

Chapter Objectives

This chapter is intended to provide:

- An understanding of the three levels at which a product or service can be marketed
- A clear distinction between a product mix and a product line
- An explanation of the role of product positioning in gaining a competitive edge
- An overview of the advantages and disadvantages of branding agricultural products
- An appreciation of the decisions which have to be made with respect to branding and
- An awareness of the role packaging can play as a component of the product mix.

Structure Of The Chapter

The chapter begins with a discussion of the nature of products and the various levels at which they can be marketed. There then follows an explanation of why enterprises tend to develop a portfolio of products and how these are managed. The factors influencing the decision as to whether particular products should be branded are identified and the process of branding products is described. Lastly, the role of packaging, as an important component of product strategy, is discussed.

The product

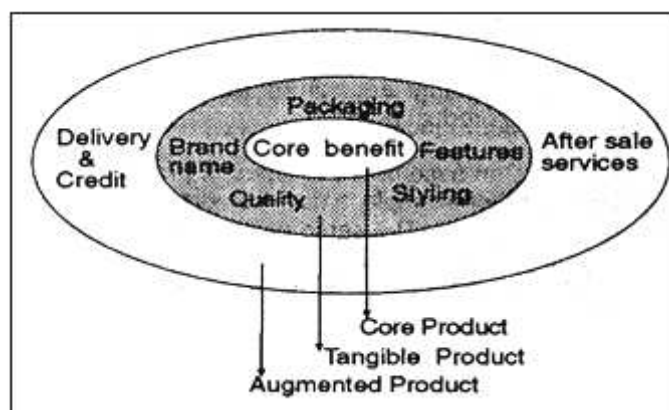
Many enterprises take too myopic a view of what their product actually comprises and, therefore, their view of how it can be marketed is similarly myopic. We should think of a given product on three levels: the core product, the tangible product and the augmented product. The base level is the *core benefit* which, in essence, is what the customer really buys. It is productive to think of a product as merely the mechanism by which the benefit the customer is demanding is delivered.

Thus, people do not buy toothpaste (the product), they buy confidence that their breath is inoffensive to others (the benefit); the farmer doesn't buy fertilizer, he buys extra grain in the store; a mother does not buy baby food, she demonstrates the virtues of a loving and conscientious mother, and a buyer of premium priced foods is not simply satisfying his/her hunger for food but also, perhaps, a hunger for status. Hence the need to know what the customer is buying and market those benefits, not products.

Care must be taken that any benefit that is marketed is valued by the potential consumer. Manilay relates how, in the Philippines, an improved milling machine which produced a better quality end product and reduced grain losses failed in the market place because broken and discoloured rice kernels were not perceived to be a problem by consumers, who were more interested in rice varieties and aromas. This example illustrates that it is the consumer and not the engineer, scientist or marketer who decides, in the market place, what is of benefit to him/her.

The core benefit has to be converted into a *tangible product* to become the carrier of the benefit. Corn oil, cotton shirts, poultry feeds, seed planters and meat pies are all tangible products. According to Kotler² tangible products have as many as five characteristics: a quality level, features, styling, a brand name and packaging. These too can be marketed to potential customers if they differentiate the product from that of competitors, so long as this differentiation is both meaningful and valued by consumers.

Figure 7.1 The product concept



Additional services and benefits might need to be offered to differentiate a product from that of competitors to give it a competitive edge. That is, an augmented product is offered. The cotton available to international buyers from the Zimbabwe Cotton Marketing Board is also available from other countries and suppliers. However, Zimbabwe's CMB have *augmented* their product with an advisory service to merchants and spinners which helps them choose the right cotton for a specific application³. Similarly, the agrochemical manufacturer who builds in a metering device into his product's packaging is augmenting his product; the tractor manufacturer/dealer who gives an extended warranty or performs a pre-delivery inspection is augmenting his product, and the food manufacturer who offers wholesalers/retailers a sale-or-return deal on products which they carry is augmenting the product offered.

Product augmentation reflects a wider view of what the customer wants. Levitt⁴ suggests that:

"The new competition is not between what companies produce in their factories, but between what they add to their factory output in the form of packaging, services, advertising, customer advice, financing, delivery arrangements, warehousing and other things that people value."

Caterpillar's oil-analysis service is an interesting example of product augmentation. Owners of Caterpillar machines are encouraged to take periodic samples of oil from the machine's engine and to send this off to Caterpillar. The oil is subjected to chemical analysis and the incidence of certain elements, such as metal content, is plotted on a graph. Over successive samples, a picture of the condition of the engine can be built up. Engine breakdowns are invariably preceded

by an upward step in the graph as the metal content of the oil increases substantially. Customers are thus able to anticipate potentially serious engine damage and can respond by commissioning remedial maintenance before a vastly more expensive major engine overhaul becomes necessary. Caterpillar machines are expensive to purchase but the durability of the machine combined with the early-warning oil-analysis service serves to convince customers that the product will prove economic over the longer term.

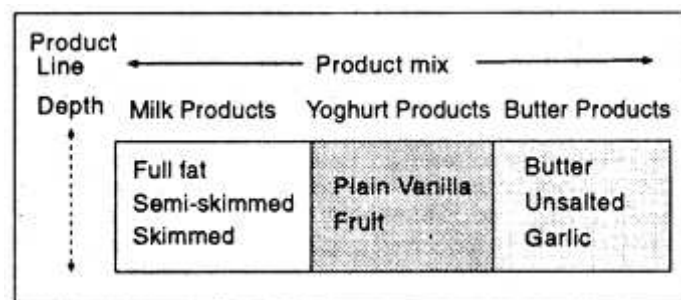
Thus we see that products can be marketed on several levels. If it is found that the product is perceived, by potential customers, to be similar to those of competitors at one level then the offensive differentiation can take place at another level. The key questions are whether the basis of our product differentiation is meaningful and valued by our prospective customers.

The product mix

Single product organisations are, in practice, fairly rare. We have already encountered the product life cycle concept and this alone should warn of the dangers of relying upon a single product. One reason for the rarity of single product firms is the inherent seasonality of agricultural products be they inputs or outputs. Another major reason for offering a complementary range of products is to gain entry to the channels of distribution. Most distributors will want to handle a product range rather than a single item. This is because the distributor's customers expect to be able to satisfy a number of their needs on the occasion of a single visit to the sales outlet. If the distributor does not carry a full product line, not only is a potential sale lost but the credibility of that distributor, as a source of knowledge on that product category and its applications, is called into question. Credibility as a source of information is particularly important where products are augmented by technical advice, as in the case of agricultural equipment, agrochemicals and other agricultural inputs. Hence, the more successful agribusinesses have a reasonably broad product portfolio.

A product mix is an assortment of types of products and product lines. A product line is a series of related products. For example, a dairy company might offer a product line of full fat milk, semi-skimmed milk and skimmed milk. The same dairy company might have a second, and distinct product line of yoghurts, plain yoghurt, vanilla flavoured yoghurt and yoghurt with nuts. Figure 7.2 illustrates the difference between a product line and a product mix.

Figure 7.2 The product line and the product mix



The *width* of a product mix refers to how many different product lines an organisation carries (in this illustration there are three product lines). Product line *depth* indicates the number of product variations within a particular product line (here we have three product lines and three product variations within each).

Case 7.1 The Tree Lifter

A manufacturer of a range of agricultural machinery components was greatly attracted by an opportunity to make and market what would have been its first complete machine. An innovative farmer had developed a tree lifting machine for his own use around the farm. He then began to consider whether other people might not find this machine useful. He

realised that whilst he had developed a working prototype, he had neither the skill nor the resources to design the tree lifter for mass production or to commercially exploit the machine, and so he approached the manufacturer.

The tree lifter was however a survey of a sample of machinery dealers revealed that few of them currently handled tree equipment. They intimated to the manufacturer that they were unlikely to stock the tree lifter unless it were, supplied with a range of complementary items. Their argument was that potential customers would not buy equipment from an outlet that they did not perceive to have specialist knowledge in the field of tree care. Offering a single tree care product would not in the view of the dealers be enough to establish their credentials as a reliable source of technical backup. capable of uprooting semi-mature trees with their root balls intact. The trees could then be transplanted to other locations.

The potential applications were many farmers could relocate trees which were inconveniently sited rather than simply destroying them, nurseries would be able to move trees around to more suitable areas as they grew, local authorities could reposition trees to make way for new developments and the forestry commission could replant thriving trees in the course of thinning out the crop. The most likely distribution channel for the tree lifter would be agricultural machinery outlets.

Product line extensions

The decision as to whether a given product line should be extended is a strategic issue. There are several reasons why firms would consider adding to the number of product lines (breadth) and/or to the number of variants (depth) within a product mix. By extending the range of products offered, a company might gain entry to as new segment of the market. It may be necessary to attract distributors who are interested in offering a full product line, or the business may have spare productive capacity and wish to increase the contribution to fixed costs by increasing the level of capacity utilisation. Alternatively, they may need to bring in products to support other product lines, or as part of their competitive strategy they want to fill gaps in the market which otherwise might give others a foothold in their market.

Whatever the motivation for extending the product line or mix, it has to be recognised that supplying more products (or product variations) carries costs as well as opportunities. The organisation's inventories, and those of its distributors, will increase; there is added complexity in production scheduling and the costs of production/manufacturing, with larger stocks of raw materials and work-in-progress. Rather than expanding its markets, the product additions merely cannibalise the sales of its own existing product lines. Moreover, rather than offering the consumer greater choice, a plethora of similar products could have the negative effect of causing customer confusion.

Clearly, the product mix must be managed carefully. At any point, the product or marketing manager must know the sales (in volume and value terms) and profit for each product line and item. He/she must also be aware of the percentage of both sales and profits which each product contributes. Using techniques such as Lorenz curves (see appendix 7A), often reveals that a relatively small number of products, within the total product range, accounts for the larger proportion of both sales and profits.

Management must be aware of how each product within the portfolio is positioned against those of competitors. This is essential for the development of an effective marketing strategy. A simple, but useful, approach is to draw a two dimensional grid, like that illustrated in figure 7.3, and label the axis according to what market research has shown are key product attributes. The company's product(s) within a given category, can then be 'mapped' against those of competitors. The product map allows management to visualise the intensity of competition in each segment of the

market and perhaps also to identify new market opportunities in segments where there is little, or even no competition.

Figure 7.3 Product map of competing yoghurt lines

Yoghurt Types	Live culture yoghurt	Competitor A Competitor B	Competitor A	
	Pasteurised yoghurt	own product Competitor A Competitor B Competitor C Competitor D Competitor E Competitor F Competitor G Competitor H	own product Competitor A Competitor C Competitor D Competitor B	Competitor A Competitor E
	Long life (UHT)	own product Competitor B Competitor E Competitor D Competitor C	own product Competitor B Competitor C Competitor D Competitor E Competitor F	
		Fruit flavouring	Preserved fruit	Fresh fruit
		Fruit/Flavour content		

In the case of this hypothetical yoghurt example, there is fairly intense competition in both the long-life and pasteurised sectors of the market, especially in the flavoured-pasteurised segment. With such intense competition, profit margins are likely to be low and management would want to look closely at their product in this segment to assess its sales and profit contributions. At the same time, relatively little competition exists within the 'live' yoghurt markets and no competitor currently offers a fresh fruit 'live' yoghurt. Marketing research would have to be carried out to determine if these segments represented a profitable market opportunity. The product map would have given direction to the company's marketing research efforts.

Product line deletions

Adding new products to a company's portfolio is a positive and creative course of action and most marketing managers find this easier to do than deleting products from their range. There are many reasons for this, but perhaps foremost among them is the reluctance to prune products from the line whilst they make some, even if modest, level of profit/contribution. In the end, however, 'sick dogs' and 'problem children' will sap an organisation's resources. Quelch and Kenny⁵ cite the following costs of product line proliferation:

- Fragmentation of the overall marketing effort and dilution of the brand image
- Increased production complexity resulting from shorter production runs and more frequent line change overs
- More errors in forecasting demand and increased logistics complexity, resulting in increased remnants and larger buffer inventories to avoid stockouts
- Increased supplier costs due to rush orders and the inability to buy the most economic quantities of raw materials and
- Distraction of the research and development group from new product development.

Where items within a product line no longer have a clear role, it is in the long term interests of the organisation to either harvest or divest themselves of these items. Techniques such as Lorenz curves and the Boston Matrix^a can help identify products that ought to be removed from the

product line.

a The Boston Matrix was discussed in Chapter 4 New Product Development

Branding products

According to the American Marketing Association⁶ a brand is “a name, term, sign, symbol or design, or a combination of them intended to encourage prospective customers to differentiate a producer's product(s) from those of competitors.”

Murphy⁷ defines a brand as:

“A trademark which ... comes into the mind of the consumer to embrace a particular and appealing set of values and attributes, both tangible and intangible. It is therefore much more than the product itself; it is much more than merely a label. To the consumer it represents a whole host of attributes and a credible guarantee of quality and origin. To the brand owner it is in effect an annuity, a guarantee of future cash flows.”

Murphy views branding as the output of a commitment by management to invest in the development of an asset. In some parts of the world, established brands are appearing as assets on balance sheets and are being assessed for their profit earning capability.

Branding can add value to a product and is, therefore, an important aspect of product management. For example, most farmers would perceive Monsanto's herbicide brand *Roundup* as a quality product from a reliable company; but the same chemical formulation in an unmarked drum is unlikely to gain the same level of farmer confidence. Branding can also provide the basis for non-price competition.

The initial decision is whether to brand or not. Historically, most unprocessed agricultural outputs have been sold as generic products i.e. unbranded. Agricultural product is frequently marketed as a commodity where within particular grade bands a product from one source is considered identical to that from another source. This is true, for instance, of black tea and green coffee beans. Blue Mountain Arabica from Kenya is a perfect substitute for Blue Mountain from Colombia, and vice versa. Similarly, the same grade of B.O.P. (Broken Orange Pekoe) from Sri Lanka and from India are ready substitutes for one another. Until relatively recently, most fruit and vegetables were largely unbranded. The exceptions have been fruit and vegetables marketed by multinational companies like United Fruits with the Chiquita brand and Geest. Some country exporters such as South Africa (Cape brand) and Israel (Jaffa and Carmel brands) broke from tradition at an early stage and adopted a strategy. Recently there has been a remarkable increase in the interest in branding amongst other exporting countries. A few years ago, Algeria decided to brand their dates so that consumers could identify both the variety and the country of origin. Previously most of their date exports went to France where they were mixed with dates from other regions and branded by the French.

The advantages and disadvantages of branding

All of this raises several questions about the need to brand, the benefits of branding and the steps involved in branding a product. The truly marketing orientated organisation will be especially concerned with the question of how branding serves the consumer.

Branding can help consumers in a number of ways. Brand names tell the consumer something about the product's characteristics and assure them that if they buy the same brand they will get the same product characteristics each time. As the number of competing products increases branding can increase the shoppers' efficiency by helping them to differentiate between products and identify that which best meets their needs. Brand names also help draw consumers' attention to new products which might meet, or better meet, their needs.

Producers and suppliers can also benefit from branding their products. Branding makes it easier for a producer or seller to match his/her products to the customers' needs. For instance, if a food

manufacturer produces three blends of instant coffee (1) 70% robusta, 30% arabica, (2) 80% robusta, 20% arabica, and (3) 85% robusta, 15% chicory, if each has a distinctive brand name it is easier for the buyer to indicate the nature of the product he/she wants. The ultimate objective is to establish a measure of loyalty among consumers towards the brand. After all, a product will only prove profitable if a sizeable proportion of the market can be persuaded to repeatedly purchase it. (Appendix 7B demonstrates one approach to modelling the levels and effects of brand loyalty).

Case 7.2 Pinklady Apples

The Pinklady apple variety was developed in Australia and introduced in 1993. Since its launch the new brand has been achieving premium prices in export markets.

The trademark is registered and its owners seek to appoint licensed distributors within each of their export markets. In this way they are able to tighten their control of the marketing of the product. With a strong brand identity any benefits gained from being first in the market accrue to the brand.

Even if competing growers eventually replicate the variety as often happens in the fruit and vegetable industries, these can only be introduced under another name and so would not benefit from the investment of the Australian owners in the name given to the new variety⁹.

A distinctive seller's brand name and trademark make it possible to legally protect unique product features. Branding also provides a basis for non-price competition by removing a product from the *commodity* category⁸. Lastly, market segmentation and target marketing are made more effective because branding enables the producer to serve separate markets with separate products.

There are also potential disadvantages attached to branding, for both producers and consumers. In the case of the consumer, there are at least two possible disadvantages. These are:

1. *Higher prices*: In most cases branded products carry higher retail prices than their generic equivalents. In part, the higher price is explained by the additional production costs and marketing expenditures incurred by the supplier in developing and supporting the brand. The higher price sometimes also carries a premium for the unique benefits and/or features of the brand. Whether or not these higher prices can be justified depends on the customer's perception of the added value he/she receives in return for the price premium.
2. *Brand proliferation*: Whilst consumers generally like to have a degree of choice when buying products, does encourage a proliferation of products. There is a real danger that so many brands are on offer that the consumer becomes confused thus negating some of the benefits of branding mentioned previously, especially shopping efficiency aiding to product differentiation. The dangers of brand proliferation are only realised when the differences between brands are either marginal or are not meaningful to the consumer and yet, the supplier continues to support the brand rather than let market forces dictate that it ought to be deleted from the organisation's product portfolio.

The possible disadvantages of branding for manufacturers, producers or suppliers include;

1. *Higher costs*: Branded products tend to require heavy promotional support and more stringent quality control to ensure the consistency of the brand. Moreover, both production and marketing costs are higher where several brands of a product type are offered rather than a single product. However, if the brand is truly distinctive and offers potential buyers benefits and/or features which they value, then additional costs can usually be recovered through premium pricing.
2. *Adverse publicity*: The relationship between the product and the enterprise which produces

and/or markets it is all the more apparent when that product is branded. Brands which fail in the market place can place a stigma on an organisation which makes distributors and consumers cautious about handling or purchasing new products/brands which that organisation subsequently launches. It is for this reason that pre-market testing must be all the more rigorous in the case of branded products.

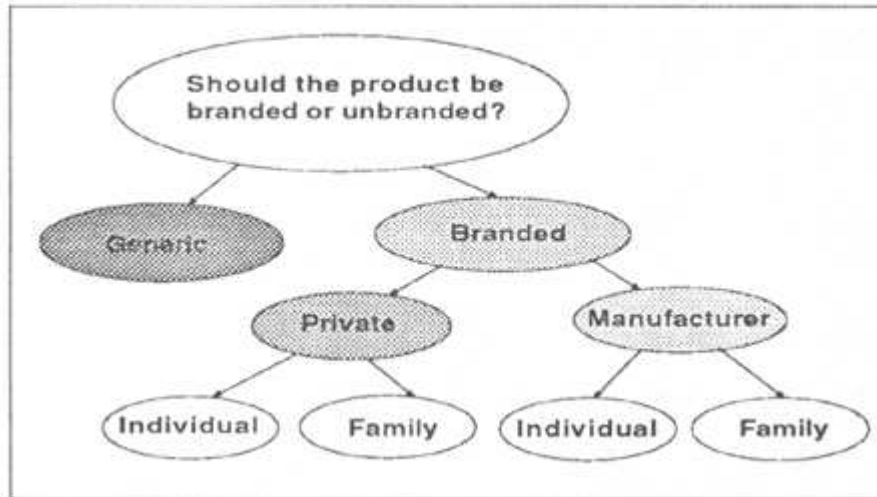
Branding decisions

There are some basic product characteristics which will help determine whether branding is feasible. First, it must be possible to identify at least one unique dimension in the product. This can be in the core benefit, the product features and/or in the augmented product. Moreover, these unique selling propositions must be meaningful to the target market. There is little point in seeking to brand a maize seed if the only distinguishing feature is that it is dyed blue, unless the market displays a penchant for blue maize seed. Second, it must be possible to consistently replicate the distinguishing characteristics of the brand. For instance, if a cheese brand is sold on the basis of its sharp taste, due to the high acidity of the cheese, but the manufacturer's production processes cannot guarantee that exact same level of acidity in every batch, then the reputation of the brand will quickly suffer.

The decisions to be made in brand management are many. Figure 7.4 indicates the main ones. It can be seen that having made the initial decision to brand the product there are then several other related decisions to make, the most important of which are:

Brand ownership: There are three possibilities. The product can carry a manufacturer's brand name, that of a middleman (often termed a private brand, a distributor's brand or a dealer's brand) or the manufacturer might put some of the product under his/her own name and some under that of a middleman.

Figure 7.4 Branding decisions



The competition between middlemen and manufacturer brands can be intense. Middlemen usually work on the premise of contracting manufacturers with excess production capacity to supply own-label products, at relatively low prices. When selling, middlemen's own-labels are normally priced below that of the labels belonging to comparable manufacturer's brands. Where they exist, large scale retailers, such as supermarket chains, are sometimes able to demand that they be supplied with own-label products since they control limited shelf space. Many manufacturers, especially those new to a market and smaller operations, experience difficulty in getting access to the market through the distribution channel. Branding products for middlemen may be an appropriate market entry strategy for these smaller agribusinesses. However, the smaller scale manufacturer is only likely to be successful in supplying own-labels to middlemen who want to position their private label as a premium priced private brand because the unit production costs of smaller manufacturers and processors are usually too high for them to supply brands which can be priced to undercut the manufacturer brands of larger scale businesses.

Brand quality: When developing a brand, the manufacturer has to choose a quality level that will support the brand's position in the target market. Some markets are more quality conscious than others and even within the same market some consumers will prefer premium brands (i.e. high quality, high priced) and others will choose economy brands.

Brand name strategy: Producers who brand their products also have to decide what brand name strategy to pursue. The choices include:

- Individual brand names, e.g. Coca Cola, Nescafé, Johnny Walker Black Label, Roundup, Outspan.
- A blanket family name for all products, e.g. Heinz, Bayer, Massey-Ferguson.
- Company branding: trade name combined with individual product names, e.g. Nestlé Gold Grain, Nestlé Rice Krispies, Nestlé Raisin Brain.

If a company has a distinctive product with actual or potential sizeable demand it is probably best to develop a separate brand identity for each such product. Using a blanket family name reduces the costs of introducing the product because there is no need to create brand recognition or preference. Moreover, if the manufacturer's name is strong the product will achieve a certain level of immediate acceptance. When a company produces a range of quite different products it is best to use family brand names for each product line. Finally, some manufacturers elect to preface all brand names with the company name to benefit from the carry-over effect of an established and trusted corporate identity.

Brand positioning and repositioning: The position of a product in the market place is multidimensional in nature. For example, a food manufacturer could develop a milk-based drink which is fortified with vitamins. The product could be positioned in one of several markets. It could be promoted as an infant food, a health food or a food for those active in sport. Whichever market is selected, the product could be priced at the top, middle or bottom end of the market and it could be formulated as a powder, fresh or UHT milk, skimmed, semiskimmed or full fat.

Brand extension opportunities: A brand extension strategy is one where an already successful brand name is used to launch new or modified products. The American confectionery company Mars have enjoyed long running success with their Mars Bar. More recently they have launched a Mars Bar flavoured milk drink and a Mars Bar flavoured ice cream. The Jaffa brand which was originally attached solely to oranges from Israel, and then later was extended to grapefruit, has more recently been used to gain consumer acceptance of a new fruit which is a cross between an orange and a grapefruit and branded Jaffa Sweetie. Both the Outspan and Jaffa brand names have been franchised to the food giant Gerber for use on a range of fruit juices.

Multibranding: A multibrand strategy is one where the producer develops two or more brands in the same product category. This is useful in market segments where there is a good deal of brand switching among consumers. Moreover, a multibrand strategy creates healthy competition between brand managers within the organisation and each brand can be developed to present different attributes and appeals to the market place. However, there is always the danger of cannibalising its own sales. This means that a new brand gains market share primarily at the expense of the firm's own established brand(s) rather than from competitors' brands.

However well a brand is initially positioned in the market, it may be necessary to reposition it at some time. Competitors may introduce similar products or consumer preferences change. For instance, a maize biscuit may have been positioned as a food for all the family then repositioned as a highly nutritious food for growing children. It is sometimes better to reposition existing products before incurring the risks and expense of launching new ones. In this way, the company can build upon existing brand recognition and consumer loyalty.

Among the desirable features of a brand name are that:

- It should suggest something about the product's benefits and qualities

- It should be easy to pronounce, recognize and remember
- It should be distinctive and not easy to confuse with others
- When exporting, it should translate easily into foreign languages.

Brand names communicate denotative and/or connotative meaning. Denotative meaning is the literal and explicit meaning of a name. Connotative meaning is the imagery which the brand name conjures up in the mind of the prospective buyer. The brand name *Easi-Cook Rice* is both denotative and connotative. It is suggestive of a product which gives maximum performance with minimum care and effort. Kenya's *Tusker* beer carries a connotative brand name which suggests that the product has some of the characteristics of the elephants, e.g. strength, nobility, imposing and on nature.

It remains the case, however, that no matter how good a product's brand name, it will not compensate for inadequacies in that product, but an unimaginative or inappropriate brand name can adversely affect the prospects of a good product.

Case 7.3 The Lobster's Tail

Interbras is an export promotions board set up by the Brazilian government in 1976. One of its most successful ventures has been to organise the collective marketing and branding of tails. This organisation exists to increase the level of foreign exchange flowing into Brazil from its exports.

Interbras felt that there were opportunities to increase Brazil's penetration of the large US market for lobster tails so they set about organising the fishermen in such a way as to ensure reliable supplies and to develop a strong brand identity. Previously, around 15 US importers were buying direct from individual Brazilian fishermen. Interbras was initially able to convince about 50 percent of the fishermen to give them exclusive rights to export their lobster tails to the US. In return, interbras gave them a better margin than the fishermen had been getting through the importers. The product was then sold to US brokers whose trading areas did not overlap with one another and so an element of price competition was removed. Interbras offered a firm price to both the fishermen and to the brokers and in each case that price was guaranteed for a three month period. In this way, some stability was brought to the market for the first time and this helped make the scheme popular with both buyers and sellers. Moreover, whenever Interbras exceeded its target margin, surplus profits were channelled back to the fishermen.

Importation of South African lobsters had for some years been exclusively handled by the South African Seafood Association and Interbras had been impressed by their success in promoting a quality image and obtaining a premium price for their product. Consequently, Brazilian Seafood Marketing Associates (Brasmar) was formed. Brazilian lobsters were packed in good quality cartons bearing the 'Brasmar' label giving the product a single brand identity. The product was promoted on its quality attributes and so was positioned as a direct competitor to South African lobsters. A rigorous quality control system was instituted to ensure that the brand image was sustained. Suppliers who consistently failed to meet the quality standards set by interbras were ultimately excluded from the scheme. As for the South African product, restaurateurs are the principal buyers of Brazilian lobsters.

Brasmar recognised that in addition to reliability of quality, the restaurants were concerned about portion control and were therefore interested in buying a product of uniform size. Interbras developed a grading system with 14 size categories instead of the 6 category system used by others. This augmentation of their product was well received by buyers who could then purchase a carton of lobsters knowing that it contained lobsters of uniform size.

The success of Brasmar can be measured in a number of ways. Perhaps the most important of these is that 85–90 percent of Brazil's lobster fishermen now collectively market through Brasmar and the organisation is able to claim that their marketing system brought US\$6 million more into the country than did the system it largely displaced¹⁰.

Brand Loyalty Models

At least four levels, of brand loyalty may be distinguished:

1. Brand Loyal: purchase sequence- A-A-A-A-A-A.
2. Divided Loyalty: purchase sequence- A-B-A-B-A-B.
3. Unstable Loyalty: purchase sequence- A-A-A-B-B-B.
4. No Loyalty: purchase sequence- A-B-C-D-E-F.

Suppose research reveals that for some product (e.g. breakfast cereals) a family purchased brands A, B, and C, in the following sequence:

A-B-A-A-B-A-A-C-A

The question arises as to how this purchase history can be modelled and what can be deduced about the family's future purchasing behaviour. If this, or any other purchase sequence is to be described and future brand choice predicted, some starting point is necessary. This starting point is commonly referred to as a state. A state can be defined in a number of ways. For example, it might be defined as a purchase, in this case brand A. Or, it might be defined as pairs of purchases, e.g., AB. Other definitions could also be used.

A brand loyalty model also requires some mechanism to describe the relations among states at different points in time. The connecting mechanisms that are most commonly used are transitional probabilities. Assume for example, that a family has the following purchase history: A-A-A-A-A-B-A-C-A-A. Given this past behaviour, it may be stated that the probability of the family buying brands A, B, or C on the next occasion are 0.6, 0.3 and 0.1 respectively.

Table 7.1 Transitional probabilities

	Brand Purchased at Time t		
	A	B	C
Brand Purchased at time t-1	6	3	1
(n=10)	0.6	0.3	0.1

Different assumptions can be made concerning the characteristics of the transitional probabilities. For example, it might be assumed that brand choice at any point in time is completely independent of brand choices in the past. Or it might be assumed that only the most recent purchase influences the next brand choice. Or again, the assumption could be made that the previous 2, 3, or 4 purchases affect brand choice on the next buying occasion.

Some assumption must also be made about the behaviour of transitional probabilities over time.

For example, it could be assumed that the probabilities are constant or stationary from one state to the next (stationarity assumption). Conversely, it could be assumed that probabilities change over time (time-variant assumption).

Finally, it is necessary to make assumptions concerning the representativeness of the transitional probabilities among consumers comprising a market segment. That is, we have to take into account the degree of homogeneity/geneity within the segment. If we assume that all consumers in the segment have the same transitional probabilities then we have the homogeneity assumption and if we assume that they vary from one consumer to another we have the heterogeneity assumption.

In designing a brand loyalty model then, decisions need to be made concerning how states are defined, as well as the determinants of the connecting mechanisms (transitional probabilities) and their behaviour over time. The brand loyalty models most frequently in use can be differentiated primarily in terms of the assumptions which are made about each of these factors.

Homogenous First-Order Markov Models

Markov chain analysis is a basic extension of probability theory developed in 1907 by the Russian mathematician A.A. Markov was attempting to understand and predict the movement of gas particles in a container. Using the location of particles at one point in time (state 1) and the probabilities that the particles would remain stationary or move at subsequent states (transitional probabilities), Markov found that he could predict the concentration of gas particles at various points in time. A general Markov chain, then, is a way of describing a phenomenon moving from one state to another. The process begins at one of the states with a given probability according to a given probability distribution and then moves to the next state according to transitional probabilities of the next state given the present state.

Marketing researchers have come to recognise the potential of this model in predicting the movement of buyers from one brand to another. Indeed this model has become one of the most commonly used to describe and predict brand loyalty. (Note that the model describes rather than explains brand loyalty behaviour).

Consider 100 consumers buying any one of three brands, A, B, and C. Assume that in period 1, 50 consumers bought brand A, 25 bought brand B and 25 purchased brand C. Assume that in period 2, of the 50 buyers of brand A in period 1, 25 repurchased brand A, 5 switched to brand B and the remaining 20 bought C. Similarly, of the 25 initial buyers of brand B in period 1, 5 switched to brand A in period 2, 15 bought brand B again and 5 switched to brand C. Of the 25 consumers buying brand C in period 1, 5 switched to A, 10 switched to B, and 10 repurchased C during period 2. The table 7.2 summarizes the brand loyalty behaviour we have just described. Within the matrix the sum of each row indicates the number of initial buyers of A, B, and C during period 1. The sum of each column yields the number of consumers buying the three brands in period 2.

Table 7.2 Homogenous first-order Markov models

Brand bought in Period 1		Brand bought in Period 2		
		A	B	C
A	50	(25)	5	20
B	25	5	(15)	5
C	25	5	10	(10)
Total	100	35	30	35

The data in table 7.2 can be used to develop estimates of purchase-to-purchase transition probabilities. If each entry in the table is divided by the sum of the row in which it occurs, the result is a matrix describing the likelihood of a consumer buying any given brand on the next purchase occasion given only information about the brand bought on the previous purchase. The transitional probabilities from table 7.1 are shown in the table below.

Table 7.3 Homogenous first-order Markov chain probabilities: Brand switching P1 to P2

Brand bought in Period 1		Brand bought in Period 2		
		A	B	C
A	50	(.50)	.10	.40
B	25	.20	(.60)	.20
C	25	.20	.40	(.40)
Total	100	50	25	25

If the number of buyers, for each brand, in period 1 is known, (e.g. 50, 25, and 25) and the transition probabilities are also known, the number of buyers in period 2 can be determined. The number of purchasers of brand A in period 2 is calculated as follows:

$$\text{Buyers of brand A in period 2} = 50 \times .5 + 25 \times .20 + 25 \times .20 = 35$$

$$\text{Buyers of brand B in period 2} = 50 \times .10 + 25 \times .60 + 25 \times .40 = 30$$

$$\text{Buyers of brand C in period 2} = 50 \times .40 + 25 \times .20 + 25 \times .40 = 35$$

If it is assumed that the transitional probabilities are constant from one period to another the data in table 7.3 can be used to calculate the number of buyers of the three brands in succeeding periods. For example, by applying the stationary probabilities to the number of buyers in period 2, the number of purchasers of brands A, B, and C in period 3 can be calculated. As table 7.4 indicates, in period 3, 30.5 consumers would buy brand A, 35.5 brand B and 34.0 brand C.

Table 7.4 Homogenous first-order Markov chain probabilities: Brand switching P2 to P3

Period 3 Brand Bought In Period 2		Brand bought in		
		A	B	C
A	35	(.50)	.10	.40
B	30	.20	(.60)	.20
C	35	.20	.40	(.40)
Total	100	30.5	35.5	34.0

By the end of the third period one of the basic characteristics of stationary first-order Markov chains has become apparent i.e. the percentage of buyers in each period will change. For example, the number of purchasers of brand B changed from 25 to 30 to 35.5 over the first three periods. If these calculations were continued then the purchasing level of a brand become smaller from period to period until, eventually, a steady state of the purchasing level for each brand is reached in the long run. Table 7.5 shows that, in the case of our example, the steady state for brands A, B, and C would approximate 29, 39 and 32 respectively.

Table 7.5 Calculating the steady state

Brand	Period								Steady State
	1	2	3	4	5	6	7	8	
A	50.0	35.0	30.5	29.2	28.8	28.7	28.7	28.7	29.0
B	25.0	30.0	35.5	38.0	39.0	39.3	39.4	39.4	39.0
C	25.0	35.0	34.0	33.3	32.6	32.4	32.3	32.3	32.0

Higher-order Markov models

As we have seen, first-order Markov models assume that transition probabilities are affected only by the immediately preceding purchase. Since there is some evidence that purchases prior to the immediately preceding purchase (i.e. 2nd last purchase, 3rd purchase etc.) may affect brand

loyalty, higher-order Markov chains can be used.

Table 7.6 A second-order Markov matrix of transition probabilities

Brands Bought In Periods 1 & 2	Purchases In Periods 2 & 3			
	AA	AB	BA	BB
AA	0.7	0.3	0.0	0.0
AB	0.0	0.0	0.2	0.8
BA	0.5	0.5	0.0	0.0
BB	0.0	0.0	0.6	0.4

Higher-order models define as some series of purchases rather than as a single purchase. For example, a second-order model of a 2 brand market is shown in table 7.6. The table contains pairs of purchase of brands A and B for pairs of periods I and II, and II and III. Some combinations cannot occur. For example, it would not be possible to move from state AA to BA because the model does not permit both A and B to be purchased during period II.

Market analysts are not limited to second-order models. Third-order, fourth-order to n-th order Markov chain models can be built. Until relatively recently higher-order Markov chains were considered impractical because since the transitional matrices were intolerably large. For example, a 9 brand, third-order model would have 729 states! Thus, the amount of data required to estimate transition probabilities was unmanageable. However, the computing power available to contemporary analysts has made the use of higher-order Markov chains a feasible technique for modelling brand loyalty. Having said this, there is little evidence that practicing marketing researchers have reassessed the potential of Markov chains. Certainly there are few published studies which have incorporated higher-order Markov chains. The reasons for this apparent lack of interest in the technique are not at all clear but it is not the case that it has been rejected on the basis of empirical evidence.

Packaging

McCarthy's¹¹ original classification of the marketing mix into the 4 Ps product, price, promotion and place is constantly under review. Some authorities want to expand to a fifth P to include packaging, but most continue to view it as a component of product strategy. Coles and Beharrell¹² give emphasis to the importance of packaging when they state that:

“It is the package that communicates more to the consumer than the actual product, at the point of purchase where the consumer decides.”

Whilst this comment was made in the context of consumer food products, it also has validity with respect to agricultural inputs. When the farmer visits the agricultural merchant it is the package which conveys the features, benefits, applications and, sometimes, quality of inputs such as seeds, agrochemicals, animal feeds, dairy hygiene and animal health products. There are four levels of packaging:

1. Primary packaging: i.e. that which comes into direct contact with the product
2. Secondary packaging: i.e. that containing the primary packaging
3. Display packaging: e.g. crates/boxes, pallet, roll container and
4. Shipping packaging: e.g. container.

The functions of packaging

The protective function of packaging: Packaging provides physical protection for the product. The typical product is handled many times between production and consumption. Perishable produce has to be protected from excessive moisture, heat or cold, ultra violet light, pathological,

physiological and/or mechanical damage in transit, storage or when awaiting purchase. In the case of horticultural produce, the demands on packaging can be great. A package may have to facilitate both the rapid cooling of the contents from high field temperatures, for example under conditions of forced air cooling, and the maintenance of low storage or transit temperatures. It must allow removal of metabolic heat during storage and transport, and may have to contain the product throughout the ripening process, if it is a climacteric or ripening fruit. For effective ripening the product requires exposure to increased temperature in a uniform manner, and to ethylene gas. Such packaging must therefore have adequate ventilation capability, for effective warming and gassing.

Some commodities are highly sensitive to ethylene gas and hence need to avoid gas build-up in transit (e.g. avocado). In these cases the packaging must allow for effective air ventilation. A package may also have to protect the produce from moisture loss. Polyethylene liners, usually with perforations to allow gaseous exchange, are used for some commodities. Other commodities have special treatments which must be taken into account when designing the package, for example sulphur dioxide treatment of grapes, and in-pack use of ethylene absorbents.

Another important function some packing provides relates to pilfering. Packages have intentionally been designed oversized to make it more difficult for shoplifters to conceal products about their person.

Packaging also serves to protect the consumer. Product tampering has forced many food companies to develop tamper resistant packages, many of which warn consumers not to purchase packs which have broken seals. Resealable packaging has been developed to preserve the product and keep it in good condition whilst it is in the process of being used. For example, Tetra Pak has recently developed resealable milk and fruit juice cartons.

The packaging-distribution interface:

All participants in the supply chains for agricultural and food products are interested in any contribution packaging can make to improving profitability and the efficiency of the physical distribution function. Packaging design is capable of contributing to the improved performance of the supply chain in a variety of ways. By altering the shape and dimensions of the packaging more product can be displayed on retailers' shelves (e.g. changing from round to square jars helps maximise the use of limited retailing space since far more square glass jars can be placed on a given area of retail display space than can round shaped jars).

The stacking strength of outer packaging can be increased so that warehouse space is optimised and other elements of the physical distribution system, such as roll cages, pallets, and transport containers, can be better utilised.

One can argue that packaging innovations are chiefly market-led only if the definition of the "market", relates to all parties in the marketing channel which the firm seeks to serve. It is vitally important that the aesthetic appeal and functional performance of packaging proves appropriate to customer needs. At the same time, the distribution channel also has exacting demands to make on packaging. Indeed, for distributors the packaging is the product and they seek characteristics which aid the distribution process.

Not unnaturally, members of the distribution channel are concerned with maximising operational efficiency and the contribution which packaging can make in reducing costs. Packaging that helps reduce costs by making handling easier and/or reducing handling. Coles and Beharrell¹² have highlighted the advances made by the food packaging industry. They state, for example, that:

"During the past five years the number of products in a supermarket has doubled on the same surface area."

The same authors add:

"Outer packaging is being minimised for direct transfer of product from lorry to shelf

display. The consequent requirement for increased quality of primary packaging also serves to present innovation opportunities.”

It is true that these remarks were made in the context of the European food industry but they serve to underline the fact that the technology exists and since the companies involved in packaging tend to operate internationally that same packaging technology is available throughout the world.

Product packaging is frequently viewed as wasteful and an unnecessary expense for which the consumer, ultimately, pays. In fact, packaging can serve to add value to products. Coles and Beharrell cite the case of the company, Premier Brands, who redesigned their Typhoo tea box because the original carton was undermining the brand's image as a good quality, fresh product. Research showed that the plastic overwrap made the box difficult to open; its thin gauge card allowed the box to easily deform, making it look shoddy and unattractive, and it leaked tea dust, creating a messy appearance and calling into question the freshness of the product. The company also discovered that most caddies hold approximately 50 tea bags whilst the box held 80 bags. The bags which had to remain in the box quickly went stale. The redesigned carton was more rigid, with no film wrap, a perforated tear strip, better quality filter papers and foil sachets containing 40 tea bags. The labels and colour combinations were redesigned to improve their visual impact.

The package must be capable of performing under all the temperature and humidity conditions that are likely to be encountered by the produce as it passes through the channels of distribution. This means that to select or design appropriate packaging for particular products/produce, the chosen distribution channel and its environmental conditions must be thoroughly described and understood.

Packaging and product differentiation: Product packaging also has a role in helping differentiate products where there are a large number of brands competing in the same market segment. Distinctive product packaging, be it in the form of shape, size, colouring, materials and/or print, can help in the positioning of a product and in its differentiation. Suppliers of fresh produce, such as fruits, find that it is difficult to effectively brand the product without packaging.

Packaging has aesthetic properties in that attractively shaped and brightly coloured packages can enhance the product's appeal. Moreover, the quality of the packaging is often used by the prospective purchaser as an indication of the quality of the contents. A good deal of market research has to go into packaging if it is to be used to best effect as a marketing tool. Colour associations will differ by culture. In some cultures, dark colours evoke a quality image and bright colours can communicate cleanliness and purity.

Another example of aggressive packaging strategies is that of the Swiss agrochemical company Ciba. Some of Ciba's products perform in a similar way to those of leading rivals such as Monsanto, Scherings, ICI and Hoechst. Instead of pursuing product advantage claims, which would be difficult to sustain, Ciba have often developed innovative packages with built-in applicators or automatic metering devices.

Manufacturers are also aware of the potential of adding to a product's utility by providing reusable packaging. Plastic containers are often preferred to cardboard cartons by consumers, because these can be used to carry and/or store other liquids.

The product-packaging interface: In certain cases packaging has evolved from being merely a container to becoming an extension of the product itself. An obvious example of this is the Coca Cola bottle. With its distinctive shape the bottle is recognised the world over and is viewed as an integral part of the product. In recent years ownership of microwave ovens has encouraged food manufacturers to develop convenience foods, or ready-prepared meals, and to use crystalline polyethylene terephthalate (CPET) for the packaging. This allows the product to be put straight into a microwave oven.

Case 7.4 Um Bongo Fruit Drink

Libby's products are all based around fruit juices. Some are pure juices whilst others are fruit juice drinks which are made from concentrates to which are added sweeteners, colourings, preservatives and vitamin supplements. There are many suppliers to this market and each has a fairly extensive range of fruit juice products.

In such a competitive market, innovation is difficult. Juices and variations appear to have been introduced. Yet, innovation is central to the survival of industries as well as companies. Libby, knowing that blended juices were increasingly in demand, took the radical approach of basing innovation on the packaging rather than the product. Indeed the blended drink which Libby launched is in no significant or substantial way different from many other blended drinks on the market. The company decided that it was the children's market that was under-exploited. Every type of fruit juice, combinations of fruit and developed the idea of a fun drink. It is said that the brand name, packaging and graphic designs were all determined before the flavour of the drink was decided upon. The brand name Um Bongo, with its vague African connotations, was generated. Cartoon graphics, depicting jungle animals, further enhanced the 'fun' concept. Tetra Pak cartons were used to add the 'modern' dimension. Um Bongo was a pure marketing/packaging innovation.¹²

The sealed unit developed by Schering is a good example of a situation where the packaging has become an integral part of the product. Many other examples can be cited: pump action packs that dispense creams, sauces and other food liquids, agrochemical containers with in-built metering systems, insecticidal sprays for the treatment of parasites on farm animals, etc.

Packaging technology

The choice of material to be used in packaging can have a tremendous impact on total costs. Du Pont¹² conducted a study which:

“...indicated a 100 per cent cost advantage for aseptic (laminated card) versus glass and a 30 per cent cost advantage for aseptic versus canned one litre size containers.”

The total systems cost for aseptic packaging (i.e. including equipment, materials, distribution etc.) was calculated to be about half that of either glass or steel cans. At the same time, it has to be recognised that Du Pont's research takes no account of third world circumstances. In these countries the raw materials for glass making may be more readily available than paperboard and it could be that the economic arguments are completely turned around. Moreover, even if Du Pont's claim that paperboard has cost advantages over glass and steel apply in developing nations, this might be outweighed by the fact that glass costs far less to dispose of than paperboard. Thus, it is possible, although not proven, that the cost saving accruing to manufacturer and distributors, from using paperboard, may be outweighed by the total cost to society which has to include the cost of waste management and pollution.

These are important considerations, especially for a developing country where packaging materials are often imported and where the nature of physical distribution systems demands robustness of the packaging. Whilst we expect packaging to perform a number of functions in marketing, it must do so at a reasonable cost.

Recent developments in packaging

Among the more recent packaging developments is the increased use of polyethylene

terephthalate (PET). PET bottles and jars have been around for a little while now and have been extensively used to package carbonated beverages and fruit drinks, but the introduction of an oxygen barrier polymer has extended its use to oxygen-sensitive products, such as beers.

Case 7.5 An Agrochemical Sealed Unit

Schering, a German manufacturer of agrochemicals which trades worldwide, has recently developed a stainless steel drum container for its products. Like all of their competitors, Schering's have previously used plastic non-returnable packaging. However, plastics packs are difficult for customers to dispose of without creating a certain amount of environmental damage.

The stainless steel drum will be refilled by the manufacturer. The contents are discharged into the spraying equipment through a specially designed coupling. This means that the operator never comes into direct contact with the chemical and so the drum offers a safety benefit as well as being environmentally friendly, and removes the problem of pack disposal.

Reductions in produce losses and extended shelf-life can be achieved by modifying the atmosphere. This can mean controlling temperature and/or humidity, the removal of ethylene, in the case of fresh fruit and vegetables, or as is the current trend for meat, salad and vegetable products, adopting the *sous-vide* vacuum packaging system.

Flexible laminates, like polypropylene and metallised polyester, are able to extend the shelf-life of products. A very recent innovation has been *active packaging*. 'Active packaging' seeks to go beyond simply extending the shelf-life of fresh and pre-cooked foods and conserve quality attributes e.g. colour, flavour, nutrients. Mitsubishi's 'Ageless' system, for example, is a sachet containing iron. The sachet is a *scavenger* that is placed in the pack. Another form of 'active packaging' is to put a *time-temperature* indicator on the pack to warn consumers that when the product is in a certain condition it should not be eaten.

Packaging technology continues to change and marketing managers must be aware of the opportunities for increased effectiveness and efficiency that these developments present if they are to remain competitive in the market place.

Chapter Summary

A product can be marketed on three levels. The core product is the benefit which the product delivers to customers. It is benefits which customers actually buy and not products, so benefits and not products should be marketed. A product's physical features represent the tangible product, i.e. quality, style, dimensions, packaging etc. This is the second product level on which a marketing strategy may be built. Marketers can add to their product to make it more competitive in the market place. The augmented product is the third level and can take the form of extended guarantees, installation services, sale-or-return arrangements, free delivery, etc.

Whilst it is usually necessary for an enterprise to market a range of products, firms need to guard against the proliferation of products to the extent that over all profitability is adversely affected. New products can help gain entry to new market segments but when the product portfolio is too large, stockholding and physical distribution costs can rise to excessive levels. The role of each product within the portfolio should be explicitly stated and understood by management. A product map may be used to better understand its competitive position relative to others on the market.

Branding serves to differentiate a product from its competitors. Brand names help customers associate given characteristics or attributes with a particular product and/or supplier and select those which best meet their needs. Buyers may find, however, that they are asked to pay higher prices for branded products than for their generic equivalents. In highly competitive markets their

may be a plethora of brands on the market and the customer becomes confused over the differences, if any, between them. Sellers benefit from branding in several ways, including having a basis for differentiating their products and segmenting the market, being able to legally protect unique product features and providing a means of moving away from price-based competition. At the same time, sellers can find that marketing branded products involves higher costs than marketing commodities or generic products. There is also the danger that products will fail in the market place and customers confidence in the sponsors of these products can quickly be eroded when the failure is readily associated with a producer or manufacturer through branding.

The key decisions, when a product is to be branded, relate to the ownership of the brand, its quality level, where the product should be positioned in the market, whether a successful brand's identity can be extended to other products and the need to develop several brands for different segments.

Packaging is an integral part of the product and often conveys the essential product benefits and features to prospective buyers. The pack can be used to help in establishing product differentiation. Packaging also serves to protect the product during handling, transit and storage. Good packaging design can help lower distribution costs through lower handling costs, minimal wastage and pilferage, and suitability for bulk handling. There is a need to continually evaluate the materials being used in packaging since the relative costs and benefits of alternative materials is ever changing. However, the cost savings accruing to manufacture and distributors, from using a particular packaging material, must be balanced against the total cost to society which has to include the cost of waste management and pollution. Packaging technology continues to change and marketing managers must be aware of the opportunities for increased effectiveness and efficiency which these developments present if they are to remain competitive in the market place.

Key Terms

Augmented Product	Family brands	Product line
Brand	Generic products	Tangible product
Cannibalisation	Market segmentation	Trademark
Core benefit	Marketing concept	Product differentiation
Differentiated marketing	Marketing mix	

Review Questions

From your knowledge of the material in this chapter, give brief answers to the following questions below.

1. Define the three levels at which a product can be marketed.
2. Differentiate between a product mix and a product line.
3. What are the potential benefits of extending the product line?
4. In what ways might consumer interests be adversely affected by extending product mixes and/or lines?
5. Define the term 'brand'.
6. What basic information should a manager have about his/her products?
7. What costs could be incurred as a result of extending the product range?
8. What are the potential advantages and disadvantages of branding to consumers?
9. What are the potential advantages and disadvantages of branding to sellers?
10. What are the main branding decisions which marketing management has to make?

11. To what extent can a good brand name compensate for a poor or mediocre product?
12. What are the functions of packaging?
13. What is the relationship between cost and the choice of packaging material?
14. Why should marketing managers be motivated to keep informed of developments in packaging technology?

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Chapter 8

Pricing Decisions

Many marketing texts compare and contrast the approaches of the marketer and the economist to pricing decisions. This implies that the two disciplines have, virtually, irreconcilable perspectives on 'best practice' with respect to pricing. Neither the value nor the validity of these comparisons has ever been convincingly established. Marketing is an eclectic discipline of which the much older science of economics is a principal component. Thus, within this text, marketing is presented as a natural extension of economics, whose fundamental precepts remain intact. Whilst markets rarely behave in precise conformity with the theories of price expounded by economists, it remains the case that our understanding of market behaviour, and our ability to predict it, depend greatly upon those same theories and therefore marketing managers need to be familiar with them. At the same time, marketers must be capable of applying alternative approaches when deterministic economic models prove inconsistent with the realities of a complex marketplace better explained by probabilistic behavioural models.

Chapter Objectives

This chapter seeks to explain:

- The wide range of objectives that organisations seek to achieve through their pricing decisions
- How producer and consumer sensitivity to price changes affect supply and demand
- The nature of cost-revenue-supply relationships and their influence upon pricing decisions
- Consumers' perceptions of price and how these are used in making purchase decisions
- The differences between cost-oriented and market-oriented pricing strategies, and
- How controlled prices are administered.

Structure Of The Chapter

The chapter opens with an extensive discussion of the various objectives of pricing before proceeding to explain price theory. The relationships between costs, sales volumes and revenues are then explored. At this point the perspective on price changes from that of the organisation to that of the consumer. Having explored consumer perceptions of price and the implications of an organisation's cost structure, consideration is given to how these factors can be brought together in the form of a pricing strategy. Alternative pricing strategies are described.

Pricing decisions

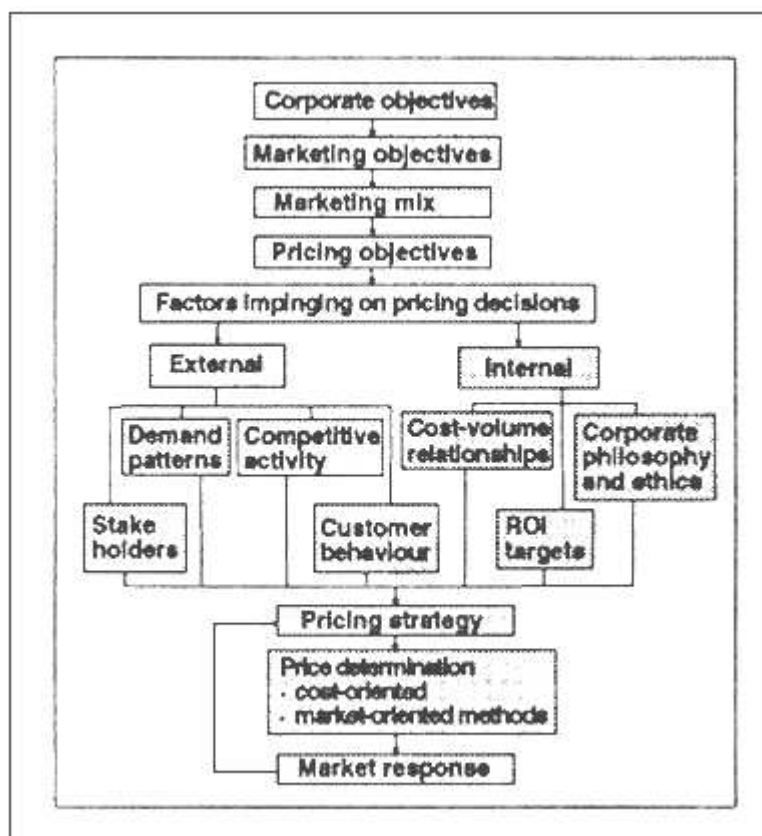
All of the decisions made with respect to the elements of the marketing mix are of critical importance and not least the decisions as to what price to ask for the product or service. The task of pricing is reiterative because it takes place within a dynamic environment: shifting cost structures affect profitability, new competitors and new products alter the competitive balance,

changing consumer tastes and disposable incomes modify established patterns of consumption. This being the case, an organisation must not only continually reassess its prices, but also the processes and methods it employs in arriving at these prices.

Perhaps a logical starting point is for an organisation to clearly articulate what objectives it seeks to achieve through its pricing policies and then to evaluate the factors likely to impinge upon the strategies which it seeks to adopt in pursuit of those objectives.

As figure 8.1 shows, enterprises have a hierarchy of objectives. At the apex of this hierarchy are the corporate objectives and it is from these that the organisation's marketing objectives are derived. Price is an element of the marketing mix, and so pricing objectives are defined in terms of their role within the marketing mix strategy.

Figure 8.1 The process of price determination



It can happen that an enterprise designs its marketing mix around its prices. It may be, for instance, that marketing research identifies a market segment for inexpensive instant coffee. The company might set a target selling price and then select ingredients and roasting processes which will keep the product within this target. In such circumstances price is the principal determinant of product positioning, product formulation, packaging, promotional strategy and, perhaps, distribution. On other occasions, price will be determined by the other elements of the marketing mix. The company may decide that in order to achieve a given level of market penetration the product must be promoted through the mass media. The price of the product would have to be set to cover the cost of this relatively expensive channel of communication. Similarly, if the company's initial decisions centred around creating a particular product image or gaining access to a specific channel of distribution or in making use of an innovative form of packaging, then the price would be greatly influenced by these decisions. Whatever the starting point, marketers have to take into account all of the elements of the marketing mix when developing marketing strategies and it is invariably the case that pricing decisions will be central to those strategies.

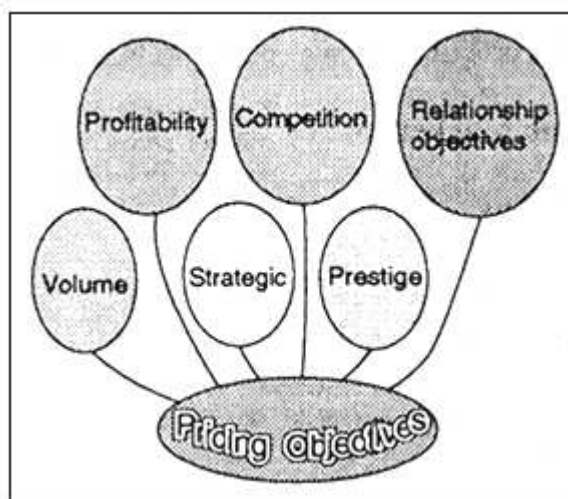
However, pricing decisions are not made by organisations operating within some kind of vacuum. When making pricing decisions marketers have to take into account a range of factors. Some of these are internal to the company, such as its marketing objectives, its marketing mix strategy

and the structure of its costs. Factors which are external to the company, and that are likely to impinge upon pricing decisions, include the state of market development, the pattern of supply and demand, the nature and level of competition and a host of environmental considerations (e.g. legislation, political initiatives, social norms and trends within the economy)

Pricing objectives

Whilst pricing objectives vary from firm to firm, they can be classified into six major groups: (1) profitability, (2) volume, (3) competition, (4) prestige, (5) strategic and (6) relationship objectives. The way in which each of these objectives is expressed can take different forms as figure 8.2 illustrates.

Figure 8.2 Pricing objectives



Profitability objectives

Commercial enterprises, and their management, are judged by their ability to produce acceptable profits. These profits may be measured in monetary values and/or as a percentage of sales and/or as a percentage of total capital employed. In addition to the overall profitability of the organisation, the profitability of strategic business units (SBUs), product lines and individual products are also often monitored. The principal approach to ascertaining the point at which profits will be maximised is marginal analysis, which is described later in this chapter.

Prudent managers are likely to take the strategic view when making pricing decisions. That is, they will not necessarily seek to maximise profits in the short-term at the expense of long-term objectives. For instance, profits may be low, or even negative, during a period when the company is seeking to penetrate a new market. Again, heavy investments in capital equipment and/or R&D may adversely affect the short-term profitability of an enterprise, but are likely to provide a foundation for longer term commercial success.

Target return on investment (ROI) goals are common in commerce and these can be either short or long run goals, stated as profit as a percentage of either sales or assets. This is a cost-oriented approach to pricing decisions. The targets set will depend very much upon the economy within which the organisation operates. If one views organisations as competing for limited funds from prospective shareholders, financial institutions and perhaps even government, then the rate of return achieved by an organisation must be competitive with the sorts of returns others in the economy are able to achieve. Potential investors have to consider the opportunity cost they incur by investing in one organisation rather than another. Typical pricing objectives might be a 20–25% annual rate of return on investment (after tax) and a 5–8% return on sales. Individual targets are likely to be set for strategic business units, product lines and individual products.

Maximising revenues: When it is difficult to calculate cost functions (e.g. when costs are indirect and/or are shared by different products) marketing managers often seek to maximise revenues

when setting prices. They do so because they need only estimate the patterns of demand and they believe that if current revenues are maximised then, in the long run, profits will be maximised.

Volume objectives

On occasion, the pricing decisions of managers have more to do with sales maximisation than profit maximisation. In these cases, organisations set a minimum acceptable profit level and then set out to maximise sales subject to this profit constraint. This is common where, as a matter of policy, a company commits itself to mass marketing, as opposed to serving narrow market segments. Minimum sales volumes can be more important than profit maximisation in another situation. Agricultural machinery manufacturers, for instance, will seek to keep volumes up, even if it means sacrificing potential profits, if their factories and skilled work force are kept employed as a result. This frequently happens if the firm believes that a downturn in business is short to medium term, since production facilities and a skilled work force are difficult to reinstate once they have been retrenched.

Maximising market share: Another volume-related pricing objective is the maximisation of market share. The organisation's specific goals may be either to maintain its share of a particular market or to increase its market share. There is frequently a positive relationship between high market share and profitability since the additional volumes help lower unit production costs.

In practice, commercial firms are likely to set prices in the context of the company portfolio and corporate strategy. Each product, product line and SBU within the company's portfolio will have a distinct contribution to make towards corporate objectives. But, whilst the prices set for individual products, product lines and SBUs will, in the short term, take account of their individual circumstances, e.g. stage in the product life cycle, degree of competition in the market, relative competitive strength in the market, average prices prevailing in the particular market, in the longer term their prices must be set in accordance with corporate strategy so as to contribute to corporate objectives.

Competitive objectives

As with any other marketing decision, pricing decisions must take into account the current behaviour of competitors and seek to anticipate the future behaviour of those competitors. In particular, a company will wish to anticipate competitors' likely reactions if the pricing strategies and tactics it is considering are actually implemented.

Going-rate pricing: Competing firms will sometimes set out to match the industry leader's prices. The net result is to take the emphasis away from price competition and refocus competition on to other elements of the marketing mix. Although pricing is an effective tool for gaining a differential advantage over competitors, a price move is easily imitated. In certain cases, if the competing firms in a market allow pricing to be the chief basis of competition, the profitability of the whole industry can suffer. Competitors may attempt to promote stable prices by focusing upon product/service strategies, promotion and distribution, i.e. the non-price elements of the marketing mix.

Anti-competitive pricing: On occasion, a firm will price its products with a view to discouraging competitors from entering the market or to force them out of the market. This is done by maintaining relatively low prices and profit margins. The extent to which this sort of pricing can be practised depends upon the firm's own return-on-investment requirements and the vigour with which anti-competitive actions are policed within a country.

Prestige objectives

Prestige objectives are unrelated to profitability or volume objectives. These involve establishing relatively high prices to develop and maintain an image of quality and exclusiveness that appeals to status-conscious consumers. Such objectives reflect a recognition of the role of price in creating the image of an organisation and its products or services.

Strategic marketing objectives

Price stabilisation: The objective of stabilising prices is met in the same way as that of removing price as the basis of competition. That is, the company will seek to maintain its own prices at or around those of competitors. However, the aim is not to negate price as a possible marketing advantage, but to narrow the range of price differentials and fluctuations¹.

Supporting other products: Pricing decisions are often focused upon the aim of maximising total profits rather than maximising profits obtained from any single product within the portfolio. To this end, some products may be designated as loss leaders whereby their price is set at a level that produces low or even negative returns in order to improve the sales and profitability of others within the range. Thus, for instance, a manufacturer of crop protection products may sell a knapsack sprayer at or below cost in an attempt to stimulate sales of the high-margin chemicals which it is designed to apply.

Maintaining cash flow: Many businesses fail not so much because there is an inadequate demand for their products and services, but due to cash outflows running ahead of cash inflows. It follows that the maintenance of a sound cash flow position is an important management objective. Much of a company's trade will be on the basis of credit rather than cash sales. The pricing mechanism can be used to manage cash flow. Prices can be structured in such a way that customers are encouraged either to pay cash or to repay credit earlier than they might otherwise do.

Target markets: The sensitivity of buyers to prices can vary across different market segments. Some consumers will view products as commodities and therefore purchase mainly, or wholly, on price. Others will perceive differences between competing brands and will perhaps make their choice on the basis of characteristics such as quality, freshness and convenience rather than on price.

Prospective buyers also differ in their perceptions of what the actual price is that they are being asked to pay. Some farmers, for instance, will focus on the retail price of a piece of agricultural equipment when considering a purchase. Others will take into account the credit terms available on the item. Yet others will calculate the trade-in value for used equipment that one dealer is offering in competition with another dealer.

Product positioning: The category into which a product is placed by consumers, and its relative standing within that category, is referred to as its position within the market. The same product can hold different positions depending upon which segments of its market are under consideration. An example would be Hodzeko, a brand of fermented milk marketed in Zimbabwe. This product is popular among low-income groups who perceive it to be a cheap relish to flavour their staple food of maize porridge (or sadza). The product is also purchased by consumers in the higher income groups, among whom it is used as a substitute for soured cream in baking. These varying perceptions of the product can allow differential pricing according to the position in the market. Hodzeko's price as a relish for the staple food has to be held at fairly low levels, but with some repackaging, and a different brand identity, the more affluent consumers can be persuaded to pay a higher price for a product which still undercuts the price of soured cream.

Price setters have also to take account of perceived price-quality relationships. The product has to be priced at a level commensurate with the target quality image and market positioning.

Relationship marketing

Commercial organisations have several important publics with which they must establish and maintain relations conducive to a positive operating environment. These publics are sometimes termed stakeholders and include such diverse groups as consumers, members of the channel of distribution, suppliers, the general public, shareholders and government. In short, stakeholders are those individuals or groups who affect and/or are affected by, the operations of the organisation. Thus, organisations have relationships with entities other than those with which they trade and those relationships have to be carefully managed. Indeed, it can be argued that the management of those relationships is part of an organisation's overall marketing effort.

Channel of distribution members: The interests of all participants in the channel of distribution for the organisation's products have to be taken into consideration when making pricing decisions. By developing pricing policies and structures which assist intermediaries to achieve their own profit objectives, an organisation is better able to retain the loyalty of channel members. Where there is intense competition for distributive outlets it is the organisation which proves most knowledgeable and sensitive about the needs of intermediaries that will fare best.

Suppliers: Just as the organisation must take account of the interests of its distributors, so it must be concerned about the welfare of suppliers. Japanese automobile manufacturers have revolutionised supplier-manufacturer relations around the world. North American and European car manufacturers traditionally operated a system of having would-be component suppliers tender each time a new model was ready for mass manufacture. The fact that a particular supplier was already satisfactorily producing and supplying components for other models was no guarantee of involvement in the supply of components for the new car model. In contrast, Japanese manufacturers tend to develop long-term relationships with component suppliers who have provided a satisfactory service in the past. Work is rarely put out to open tender. The Japanese philosophy sees the component supplier as an extension of its own business. Whereas a component supplier, to a North American or European automobile manufacturer, could expect to be brought in once the engineering design on the car had been completed. The Japanese manufacturer does not provide the supplier with a set of specifications for the component. Instead, the component supplier is briefed on the concept of the proposed new car and asked to develop a design for the component which will assist in translating the concept into a tangible product. Suppliers to Japanese automobile manufacturers enjoy a measure of security which enables them to plan for a longer period ahead and encourages them to invest in new technology. Car manufacturers from other parts of the world have begun to appreciate the need to develop closer relationships with their suppliers. General Motors, for example, has now adopted the Japanese approach to supplier relations.

The general public: The general public has an interest in the activities of commercial organisations even if they do not buy or use the organisations' products or services. The public will, for instance, be concerned about the state of business ethics within an organisation and with issues such as the impact that an organisation's activities have on the environment, the extent to which the organisation contributes to the local community (e.g. charitable works and contributions), the manner in which it deals with the complaints and concerns of the community and the extent of its profits. Companies have to be careful in the way they report prices and profits since these can easily be perceived as being excessive.

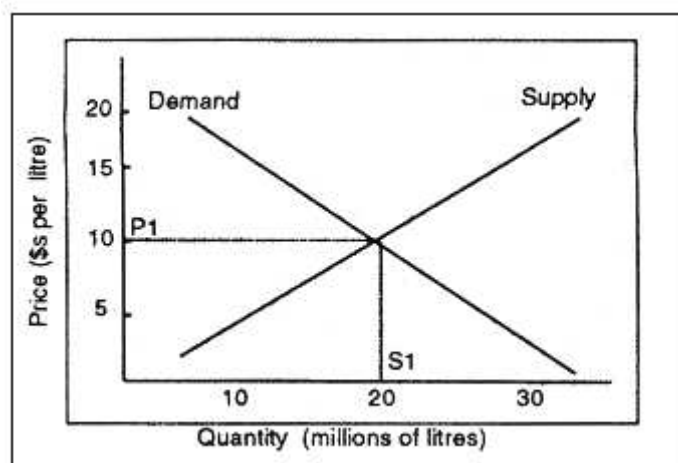
Government: Governments often take a keen interest in the prices charged, particularly if the product is a staple food. This is true even where organisations have been freed from government control over prices because the price of basic foods is a politically sensitive issue in most countries. The government will wish to be seen to be vigilant in preventing profiteering at the expense of the common people. The situation can be particularly difficult for organisations such as agricultural marketing parastatals who after years of suppressed prices find it necessary to raise prices substantially to become commercially viable. Market liberalisation may give them greater freedom in price setting, but substantial price increases have to be 'marketed' to both government and the wider public.

The laws of supply and demand

The laws of supply and demand are widely known and understood. Price theory holds that *ceteris paribus* (i.e. all other things being equal), as prices increase so demand falls and supplies increase. Figure 8.3 depicts the demand and supply schedules for a given product. For the purposes of illustration assume that the product is sunflower cooking oil. These schedules indicate the quantity of the product demanded and supplied at various prices within a given time period. At the intersection of these two curves is the point of equilibrium, the price at which the quantity supplied by sellers equates to the quantity demanded by buyers. In this example, the equilibrium price is \$ 10 per litre. Since buyers can obtain all the sunflower oil they need at this price, no producer is able to levy a higher price than \$ 10 per litre of sunflower oil. If, however, producers were to supply more than 20 million litres into the market then a new equilibrium point

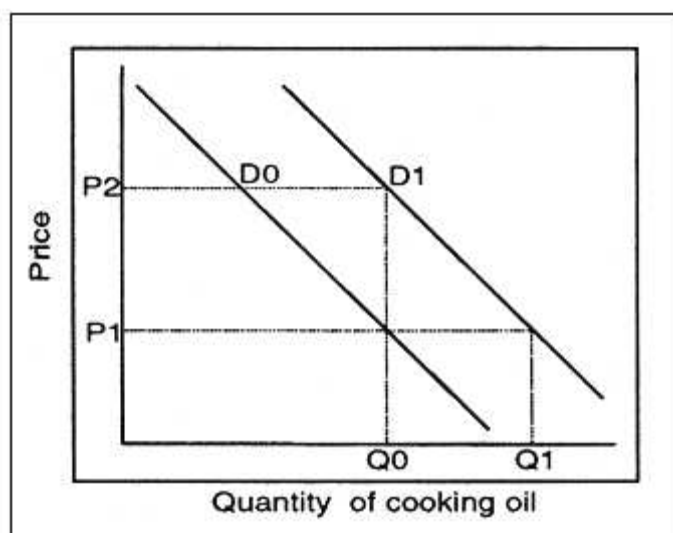
would be established at a lower price.

Figure 8.3 The point of equilibrium in a perfectly competitive market



As we have seen, *ceteris paribus*, a change in the price of the product will cause movement along these curves, but what if all other things are not equal? Suppose, for example, that one or more of the major determinants of demand e.g. disposable income, were to increase, then the whole demand curve could shift to the right as illustrated in figure 8.4. An increase in the price of a substitute product, such as animal fats, would have the same effect. A decrease in the price of complementary products would again cause the demand for sunflower oil to shift to the right. So, for instance, if the price of cooking fuels fell, or the price of foods regularly cooked in oil fell, then the increase in demand for these complements would induce a shift in the whole demand curve for the sunflower oil from D_0 to D_1 and demand would increase from Q_0 to Q_1 .

Figure 8.4 Shifts in the demand curve



Shifts in the supply curve also occur and are a function of the product's own price, related product prices and non-price variables which can bring about a shift in supply levels, e.g. weather and technology.

Elasticity of demand

A key question for any trading organisation is how the level of demand for its product will change in response to a price change. Consider the position of a miller contemplating lowering the service charge for grinding maize cobs into flour by 5 percent. The miller will be uncertain of the effect of such a price change on revenues. A 5 percent decrease in fees should attract more business from the millers, but, this increase in grain coming to be milled may or may not be

enough to compensate for the smaller margin per unit sold. Total revenue could either rise or fall depending on how big the increase in demand is in relation to the size of the price cut. A 5 percent increase in milling fees is likely to result in a fall off in demand for the miller's services. The impact of these events on total revenues once more depends upon the magnitude of the change in demand relative to the percentage change in price.

A price cut will increase revenue only if demand is *elastic* and a price rise can only raise total revenue if demand is *inelastic*. Price elasticity of *demand* (or demand elasticity) is a measure of the responsiveness of buyers to price changes. The elasticity of demand is the percentage change in the quantity of a product demanded divided by the percentage change in its price.

$$e = \frac{\text{the percentage change in the quantity demanded}}{\text{the percentage change in the price}}$$

The price elasticity of supply of a product is the percentage change in the quantity of product supplied divided by the percentage change in its price. However, the question arises as to whether price and demand changes ought to be measured as a percentage of their initial value or as a percentage of their final value. A fall in the price of a litre of vegetable oil, from say \$5 to \$4 could legitimately be reported as a 20% decrease ($\$1/\5×100) or alternatively, viewed as a 25% decrease ($\$1/\4×100). To avoid confusion, and inconsistency in measuring elasticity, the average of the initial and final price or quantity demanded can be used as the basis for calculating the degree of price elasticity of demand. The formula is:

$$\text{Price elasticity of demand} = \frac{Q_2 - Q_1}{(Q_1 + Q_2)/2} + \frac{P_2 - P_1}{(P_1 + P_2)/2}$$

where P1 and Q1 denote the old price and quantity and where P2 and Q2 represent the new price and quantity.

When the elasticity of demand, or supply, is greater than 1.0, that demand or supply is said to be *elastic*. A ratio of less than 1 indicates that demand, or supply, is *inelastic*. Elasticity will be zero if the quantity demanded or supplied does not change at all when price changes. The greater the elasticity, the bigger the percentage change in quantity demanded for a given percentage change in price. A summary of price elasticity patterns is given in figure 8.5.

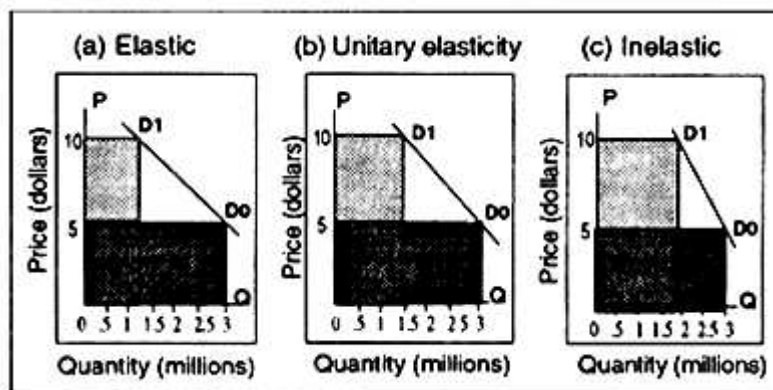
Figure 8.5 Degrees of own-price elasticities of demand

Value Of Elasticity	Interpretation	Type
$e = 0$	Quantity demanded does not change at all in response to price changes.	Perfectly inelastic
$0 > e > (-)1$	Quantity changes by a smaller amount than price.	Relatively inelastic
$e = (-)1$	Quantity changes by the same amount as price.	Unitary elasticity
$(-)1 > e > (-)$	Quantity changes by a larger amount than price.	Relatively elastic
$e = (-)$	Consumers will purchase all they can at a particular price but none of the product at all above that price.	Perfectly elastic

Suppose that due to the banning of imports the price of sunflower oil rises from \$5 to \$10 per litre. The effect on a domestic supplier's revenues will greatly depend upon the degree of price elasticity of demand. Figure 8.6 illustrates three possible responses in the marketplace. Figure 8.6a depicts the situation when the market proves highly responsive to the price change. The 100 percent price increase causes demand to slump from 3 to 1 million litres. Since the percentage

fall in demand is greater than the percentage rise in price, demand is said to be elastic. Figure 8.6b shows what happens if the change in price and change in demand are proportionally equal to one another, i.e. unitary elasticity is revealed and total revenues remain the same. Figure 8.6c represents a market response where the increase in price is of a greater magnitude than the decline in demand. Put another way, relative to the change in price the change in demand is small and therefore demand is classified as inelastic or, more properly, relatively inelastic.

Figure 8.6 Possible market responses to a doubling of the price of a commodity



Colman and Young² point out that 4 particular factors greatly influence the price elasticity of demand. These are:

- the availability of substitutes
- the number of uses to which a commodity can be put
- the proportion of income spent on a particular product and
- the degree of commodity aggregation.

Availability of substitutes: Any commodity for which there are close substitutes is likely to have a highly elastic demand. Even relatively modest price increases are likely to bring about a sizeable fall in its demand as consumers switch to substitutes. (This assumes, of course, that those substitutes continue to enjoy a price advantage over the commodity in question). Thus, the demand for sunflower oil is elastic because it has many close substitutes: olive oil, palm oil, vegetable oil, animal fats, etc. Similarly, the demand for beef will be price elastic where other meat products like poultry, lamb, goat and/or fish are available and perceived by consumers to be acceptable substitutes.

Number of uses to which a commodity can be put: The more uses a commodity has, the more elastic will its price elasticity tend to be. Modified starches can be used in a number of manufacturing processes, including paper production, adhesives and a wide variety of processed foods; a price reduction is likely to increase demand in several end-use markets and total demand could be dramatically affected.

Proportion of income spent on the product: The larger the product's share of the consumer expenditure, the more sensitive will the consumers become to changes in its price. Consumers in less developed countries typically spend in excess of 50 percent of their disposable income on food, whereas those in industrialised countries spend nearer 20 percent of disposable income on food. The demand for most foods in poorer countries is generally more elastic than for comparable foodstuffs in rich countries.

Degree of commodity aggregation: The price elasticity of demand will depend on how widely or narrowly a commodity is defined. The demand for *meat* is normally more price elastic than the demand for *all meat*. Similarly, the price elasticity of *all meat* is likely to be more price elastic than the demand for *all food*. Commodity aggregation reduces the number of substitutes and increases the proportional share of the household budget.

The elasticity of demand is influenced by the time perspective under consideration. Demand is sometimes elastic in the short run, but inelastic in the long run. Consider the position of a farmer faced with a big increase in seed prices. In the short run he is committed to his system of farming and has little alternative, but to continue to buy the seed. In the longer run he can change his behaviour; perhaps use a precision seed drill, switch from a coated to a cheaper uncoated seed, experiment with lower seeding rates, change planting dates, etc. With many consumer products the time effect works in the opposite way. Suppose the price of a housewife's favoured brand of breakfast cereal increases in price by say 5%. Her immediate reaction could be to switch to a cheaper brand on the next purchase occasion. However, if brand loyalty is strong, she will not get as much satisfaction from the substitute brand and so switches back in the long run. In such circumstances, demand is elastic in the short term, but inelastic in the long term.

Case 8.1 Inelastic Demand For Food In Brazil

Da Silva et al. conducted an analysis of own-price elasticities for livestock products in Brazil, over the period 1947–79. They arrived at the following estimates:

Beef	-0.22
Liquid Milk	-0.14
Dairy products	-0.16

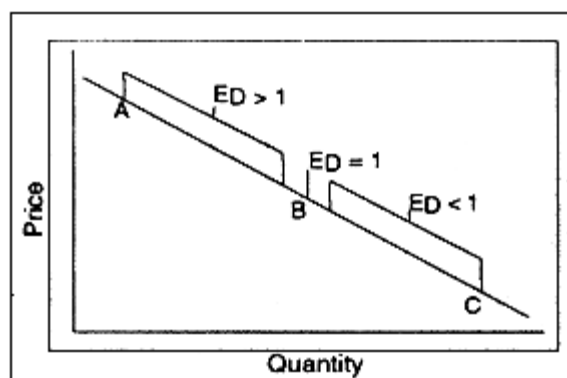
In each of these cases, the results show inelasticity. How do we interpret and of these figures?

In Brazil, 90% of beef, milk and dairy products is consumed by the more affluent classes which however, account for only 40% of the population. This being so, the average share of food (of the affluent consumers) in the consumer budget is far less than would be the case if the low income group had a greater weight in consumption. It is also the case that liquid milk and dairy products (an aggregate commodity) have few substitutes and the only clear substitute for beef was poultry. Under these circumstances, the low price elasticities are understandable.³

Elasticity also tends to vary along a demand curve. In general, price elasticity of demand will be greater at higher price levels than at lower price levels. This is illustrated in figure 8.7.

Between points A and B a small change in price brings about a disproportionately large change in quantity purchased and so demand is relatively elastic, but elasticity in the lower price range, between points B and C, is rather less elastic.

Figure 8.7 Variations in the price elasticity along a demand curve



The marketer's interest in demand elasticity is readily understood. If demand for his/her product is inelastic then, *ceteris paribus*, total revenue will fall when price is reduced and will increase when price is raised. Conversely, when demand is elastic, total revenue goes up when price is cut and falls when price is increased. Clearly these patterns of demand, in response to price movements, are of fundamental importance to pricing decisions made by marketing personnel.

Cross-price elasticity of demand

Table 8.1 Own and cross-price elasticities for selected meat products

	Elasticity with respect to the price of		
	Beef & Veal	Lamb	Pork
Beef & Veal	-2.13	0.21	0.03
Lamb	0.50	-1.61	0.13
Pork	0.08	0.15	-2.12

Cross price elasticity of demand is a measure of how the quantity purchased of one commodity (**Qa**) responds to changes in the price of another commodity (**Pb**), *ceteris paribus*. This can be expressed as:

$$e^{ab} = \frac{\text{percentage change in the quantity demanded of commodity a}}{\text{percentage change in the price of commodity b}}$$

The sign of cross elasticity is negative if a and b are complements and positive if a and b are substitutes. For example, the cross-price elasticity of beef with respect to the price of lamb would be positive since, in many countries, the two are substitutes and a rise in the price of lamb will lead to a switching from lamb to beef. Conversely, the cross-price elasticity of a country's major grain crop with respect to fertiliser is likely to be negative (assuming there are no subsidies) since the two products are complementary commodities where grain price increases depress demand for both the grain and fertiliser.

Practical problems of price theory

Price theory concepts are sometimes difficult to apply in practice. The problem is that economic analysis is subject to the same limitations as the assumptions on which it is based. One such assumption is, as we have said, that firms are seeking to maximise profits. However, many firms do not attempt to maximise profits. Furthermore, it is difficult to estimate demand curves. The supply side of the pricing equation is not too difficult since costs can be calculated fairly reliably, but demand must be estimated from market research. Such estimates of demand, at various price levels, are far less reliable than estimates of costs.

Another over-simplified assumption is that, for any commodity, an equilibrium point between supply and demand will be reached. This depends on there being a perfectly competitive market. However, many agricultural commodity markets have market clearance schemes where suppliers are compensated by a minimum price when there is surplus produce around and so a price is actually obtained when demand is at or around zero. It is also common to find stockpiling schemes which push prices higher than the theoretical equilibrium price of the perfectly competitive market. Similarly, when stockpiles are released on to the market, prices are forced below the level they would otherwise reach.

Cost - revenue - supply relationships

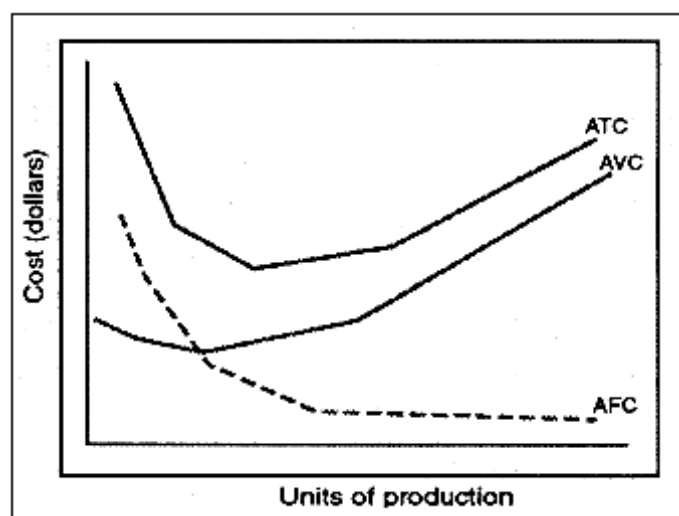
Organisations have to consider their costs when making pricing decisions. As will shortly be seen, in some instances selling prices are set as a fixed mark-up on costs, but in most cases costs are treated as only one determinant, albeit an important one, in establishing selling prices. In either case, the calculation of production and marketing costs is essential, but not always easy to achieve, since there are alternative and equally legitimate approaches to the assigning of costs.

Costs can be broadly categorised as fixed and variable. Fixed costs do not vary with the level of production. Rents, insurances, the salaries of administrative staff and depreciation on capital equipment are all examples of expenditures which do not directly vary with the level of production. If the production of an organisation in a given time period were zero, these costs still have to be met. In contrast, variable costs are those expenditures which vary in direct relation to

volumes of production. Examples of this class of cost include raw material costs, hourly labour rates and packaging costs. If total fixed costs (TFC) are divided by the number of units produced then the average fixed cost (AFC) is obtained. Similarly, dividing the total variable cost (TVC) by the number of units produced gives the average variable cost (AVC). The relationship between the various classes of cost is illustrated in figure 8.8.

Average total cost (ATC) is obviously the sum of $AFC + AVC$. As production increases fixed costs are spread over a larger number of units and so AFC falls. AVCs also fall, over a certain range of production levels, as the organisation benefits from economies of scale. However, as figure 8.8 also shows, at some point AVCs will start to rise again as diseconomies of scale take effect. Typically, diseconomies of scale include the higher rates of workers' pay for overtime and the premium prices paid for scarce raw materials and/or components. Since AVCs tend to rise faster than AFCs fall, the average total cost rises too.

Figure 8.8 The movement of average costs as production levels change



Given these cost patterns organisations are, naturally, interested in identifying the point at which AVCs are at their lowest. It does not necessarily follow, however, that the organisation will stop production at that point because it may be the case that the market is willing to pay a higher unit price to secure supplies of the product. Thus marketing organisations seldom focus exclusively upon the behaviour of costs when setting prices, they also take account of likely demand and the revenues which flow from it. Ideally, the organisation would like to find the point at which supply, demand, prices and costs would allow it to maximise profits. To this end, marginal analysis is sometimes employed.

The meaning of price to consumers

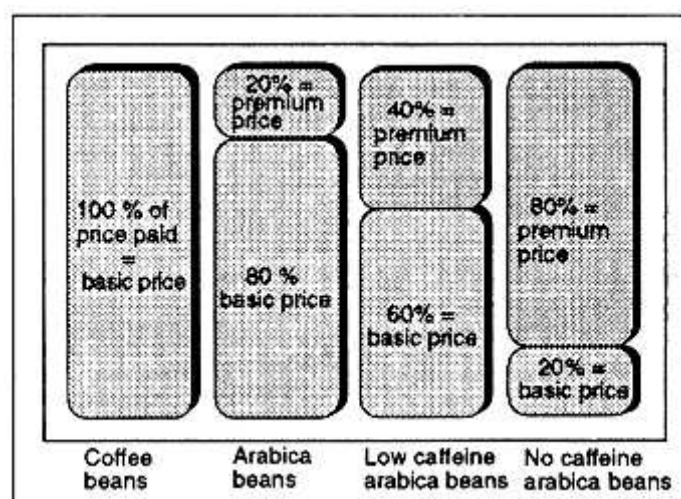
So far, we have been looking at pricing from the perspective of the organisation. Now, we turn our attention to the meaning of prices to the consumer. The price of a product or service conveys many diverse messages to consumers. Some consumers will see price as an indicator of product quality; others will perceive the price as a reflection of the scarcity value of the product or service; some others will view price as a symbol of social status; and yet others will simply see price as a statement by the supplier about the value he/she places on the product or service. This being the case, consumers will perceive a given price in a variety of ways: as being too high or too low, as reflecting superior or inferior quality, as indicating ready availability or scarcity of supply, or as conveying high or low status.

Irwin Gross⁴ presents an interesting perspective on the meaning of price to consumers and marketers. His schema conceptualises prices as having two components: the basic price and the premium price differential. It may, in practice, be an entirely fictional view of prices, but nonetheless it provides a useful conceptual framework for understanding both buyer and seller behaviour with respect to price. The basic price is the amount buyers are assumed to be willing to pay for the core product and its associated benefits, e.g. a 1.5 hp hammer mill. The premium

price differential represents the additional amount which buyers are willing to pay for the augmented product, e.g. a 1.5 hp hammer mill supplied, as standard, with 6 screen sizes for milling a range of grain types and an 18 month warranty on all wearing parts.

The challenge for marketers, according to Bennett⁵, is to convince the potential buyer that if he pays the price premium he will be more than compensated by the additional value which the product represents. It is the basic price component which is readily constrained by the laws of supply and demand. The international market for coffee beans illustrates the point. Brazil, which accounts for around one-third of world production, suffered a heavy frost in 1994 and lost a sizeable proportion of its crop. Within a few weeks coffee prices increased by over 200 percent⁶. Producers elsewhere in the world experienced a financial windfall, but for the previous eight years they had struggled because the price had been depressed because of the adverse balance between supply and demand. Coffee producers are destined to continue riding the roller coaster of world prices. Suppose, however, a producer were able to develop a coffee bean with a lower caffeine content. Both the low and no-caffeine coffee markets are growing worldwide. At present, the caffeine content is modified during processing, but food manufacturers would find it cheaper to buy in a lower caffeine bean if it were available. Such a bean would not be subject to the normal market forces of supply and demand affecting conventional coffee beans.

Figure 8.9 The effect of product augmentation on the price differential



Low caffeine arabica beans would have even greater value to food manufacturers and so the price premium would increase. Among those processors who wanted to produce a highly refined, 'healthy' coffee, an arabica bean with absolutely no traces of caffeine would be valued higher than any other. Moreover, such a unique product would not be treated as a commodity and therefore would not be subject to the vagaries of the international market for coffee to the same extent as conventional bean supplies.

Price as an indicator of quality

In the absence of other information on which to base their judgement, consumers often take price to indicate the quality level of the product or service⁷. Low prices can, in certain circumstances, prove as much a barrier to sales as prices which are too high. If the product is perceived to be too cheap then consumers begin to question whether it can be of adequate quality. In electing not to purchase the cheapest brand among competing products, the consumer is seeking to avoid the risk of acquiring a product with a performance considered to be substandard.

Case 8.2 Price-Quality Relationships In Filipino Rice Marketing

In the Phillipines the relationship between the price and quality of milled rice is extremely weak. New rice milling technology was introduced to reduce the enormous losses

during the conversion of paddy to rice. However, insensitivity to the reductions in broken and discoloured kernels on the part of the majority of consumers has severely limited the adoption of the improved rice milling technology.

The International Rice Research Institute (IRRI) discovered that the number of broken kernels could increase from 14 to 42 percent with only a 9 percent fall in the wholesale price. It seems that Filipino consumers are more concerned with the variety and aroma of the rice than with the percentage of broken kernels. Not all consumers are as unconcerned with the quality of their milled rice. The Thailand export price suffered a drop of almost one-third when the number of broken kernels rose from 14 to 42 percent.

An alternative conclusion is that the Filipino consumer is quality conscious, and will pay a higher price for better quality, but does not measure quality on the same dimension as those interested in developing improved milling machines (i.e. percentage of broken kernels). The attributes of variety and aroma have already been mentioned. Other plausible measures of quality are moisture content, and the presence of impurities⁹.

Research by Stoetzel⁸ suggests that consumers do not set out to make a purchase with a particular price in mind which they consider to be the acceptable price. Rather, the consumer has a price band with an upper and lower limit. Thus, for example, a consumer intent on buying sugar is more likely to have in mind that he/she is prepared to pay between 35¢ and 45¢ per kg rather than having in mind that, say, 40¢ per kg is the only acceptable price. According to Stoetzel, beyond his/her upper limit the consumer considers that the additional expense cannot be matched by additional quality or that he/she does not require additional quality beyond that level. In other words, a product can only carry so much quality or the consumer only needs so much quality. The consumer's lower price limit marks the psychological boundary below which its considered that the product is too cheap to carry an acceptable level of quality. The main implication of Stoetzel's findings for pricing decisions is that in setting product prices, marketers need first to determine the price band within which consumers are relatively insensitive to price movements. It may well be that existing prices can be moved upwards, within the price band, with little or no effect on demand, but with a very positive effect on the marketing margin.

Pricing strategies

Pricing strategies are of two generic types: those that are based upon the organisation's costs and those to which some margin is added. The choices in this approach are confined to establishing a basis for arriving at the margin to be added. Market-oriented methods are the second category of pricing strategy. Whereas cost-plus approaches to pricing are proactive, in that prices are largely determined by the organisation's financial performance objectives, market-oriented approaches are reactive to market conditions and are shaped by the organisation's marketing goals.

Cost-plus methods of price determination

The cost-plus approach to pricing is possibly the most used method. This involves calculating all the costs associated with producing and marketing a product on a per unit basis and then adding a margin to provide a profit. The per unit profit can be expressed either as a percentage of the cost, in which case it is referred to as the *mark-up*, or as a percentage of the selling price, when it is referred to as the *mark-on*, or margin.

$$\text{Mark-up} = \frac{\text{Selling Price} - \text{Cost Price}}{\text{Cost Price}} \times \frac{100}{1}$$

$$\text{Mark-on} = \frac{\text{Selling Price} - \text{Cost Price}}{\text{Selling Price}} \times \frac{100}{1}$$

There are a large number of cost-plus techniques, but they differ only in the detail of how the total costs attached to a product are determined. The two most common cost-oriented pricing procedures are full-cost pricing and incremental-cost pricing.

Full-cost pricing: All the direct costs of production are assigned to the product and, in addition, the indirect costs are apportioned according to a formula adopted by the manufacturer. Under the full-cost method, if a production batch accounts for 0.000005 per cent of the plant's total production then 0.000005 per cent of the firm's overhead expenses are charged to that batch. This approach permits the recovery of all costs plus the amount added as a profit margin.

There are two principal weaknesses in this approach. First, there is no consideration of competition or of demand for the product. Second, any method of allocating overheads is arbitrary and may be unrealistic. In manufacturing, overhead allocations are often tied to direct labour hours. In retailing, the square footage occupied by a certain group of products is sometimes used.

Incremental-cost pricing: The arbitrary allocation of fixed expenses can be overcome by using incremental-cost pricing which seeks to use only those costs directly attributable to a specific output in setting prices. For example, suppose a fruit juice manufacturer has the following costs and sales:

Sales (10,000 units @ \$10 each)	\$100,000
Expenses:	
Variable	\$50,000
Fixed	40,000
	<u>90,000</u>
Net Profit	<u>\$10,000</u>

Suppose the juice manufacturer is offered a contract for an additional 5,000 units. Since the peak season is over, these items can be produced at the same average variable cost. Assume that the labour force would be idle otherwise. The firm now has to decide how low to price its product in order to get the contract.

Using the full-cost method would give us a lowest price of \$9 per unit. This figure is a product of dividing the \$90,000 in expenses by a production of 10,000 units. By contrast, the incremental method would allow us to price as low as \$5.10 per unit. This price would be composed of \$5 variable cost plus a \$0.10 per unit contribution to fixed expenses and overheads. With a price of \$5.10 the financial position would look like this:

Sales (10,000 units @ \$10 each)+(5,000 units @ \$5.10)	\$125,500
Expenses:	
Variable	
-15,000 × \$5	\$75,000
Fixed	40,000
	<u>115,000</u>
Net Profit	<u>\$10,500</u>

Thus, profits are increased under the incremental approach. The example does assume that the two markets are sufficiently well segmented that selling at a lower price in one will not affect the other.

Having decided upon the approach to the costing of products that is to be employed, attention

can be turned towards establishing the margin which is to be added to product cost. This margin can be calculated either as a mark-up or a mark-on.

Breakeven analysis

When considering alternative possible prices for a product, decision makers are interested in establishing the point at which each of these prices breaks even. The breakeven point is where the number of units of the product sold, at a given price, is just sufficient to cover both the fixed and variable costs incurred. At sales volumes above the breakeven point the firm moves into profit and at sales volumes below the breakeven point the firm is making losses.

The formula that needs to be applied to obtain the breakeven point is:

$$\text{number of units to breakeven} = \frac{\text{fixed costs}}{\text{price} - \text{variable costs}}$$

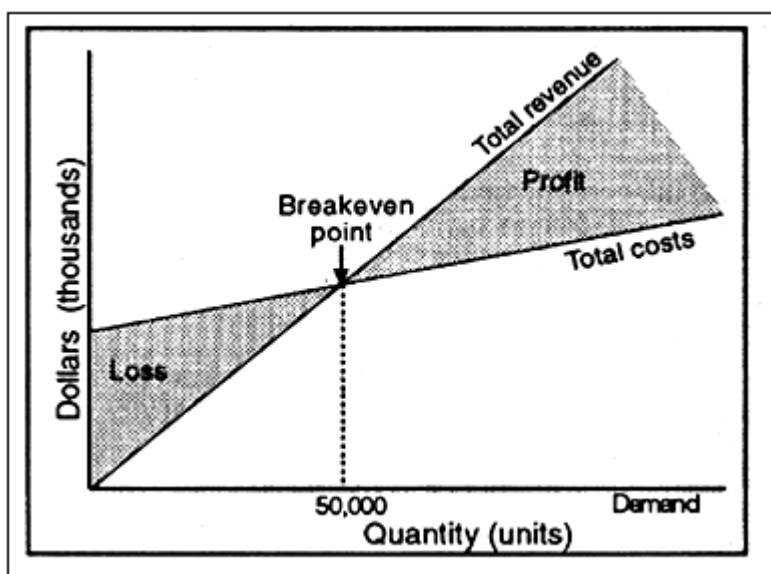
Deducting the variable costs from the selling price gives us the contribution each unit sold makes towards the fixed costs.

Example: A fertilizer manufacturer's NPK production facility carries fixed costs of \$500,000. Assume that the variable cost of production, per bag of NPK, is \$10 and that the company is considering selling to wholesalers at \$20. It can be shown that, given these figures, the company needs to sell 50,000 bags of NPK before it breaks even

$$\begin{aligned} \text{number of units to break even} &= \frac{\$500,000}{\$20 - \$10} \\ &= 50,000 \text{ units} \end{aligned}$$

Figure 8.10 depicts this example in graphical form. The company has to establish whether the size of the potential market, the prices of close competitors (if there are any) and elasticity of demand for their product is such that sales of this order can be achieved with relative ease.

Figure 8.10 Calculating the breakeven point



The company will wish to estimate total sales, and therefore total profitability, at a selling price of \$20 per bag. In many cases, marketing managers will repeat the same calculations for several

possible selling prices.

Suppose that the demand for NPK fertiliser follows the conventional downward sloping demand curve (i.e. demand increases as the selling price falls) and that three possible wholesale prices are being considered: \$15, \$20 and \$25. Table 8.2 shows the demand estimates at each of these prices and the corresponding breakeven points.

As the selling price is raised the breakeven point falls and the per unit contribution to fixed costs increases. However, it is achieving the right balance between the per unit contribution and demand. Thus whilst the \$25 price yields the best per unit contribution and the \$15 price maximises demand, it is the \$20 price that gives the best profit.

Table 8.2 Estimating the breakeven points and profits at alternative selling prices

Selling Price A (\$20)		Selling Price B (\$15)		Selling Price C (\$25)	
Demand	= 75,000 bags	Demand	= 125,000 bags	Demand	= 40,000 bags
Breakeven	= $\frac{500,000}{20 - 10}$	Breakeven	= $\frac{500,000}{15 - 10}$	Breakeven	= $\frac{500,000}{25 - 10}$
Breakeven	= 50,000 bags	Breakeven	= 100,000 bags	Breakeven	= 33,334 bags
Revenue	= \$20 × 75,000	Revenue	= \$15 × 125,000	Revenue	= \$25 × 40,000
	= \$1,500,000		= \$1,875,000		= \$1,000,000
Fixed costs	= -\$500,000	Fixed costs	= -\$500,000	Fixed costs	= -\$500,000
Variable costs	= \$10 × 50,000	Variable costs	= \$10 × 125,000	Variable costs	= \$10 × 40,000
	= -\$500,000		= -\$1,250,000		= -\$400,000
Profit	= \$500,000	Profit	= \$100,000	Profit	= \$100,000

This simple example serves to illustrate the point that maximising sales volumes and maximising profits are not necessarily one and the same objective. It is equally useful in underlining the fact that maximising sales revenues does not automatically provide the best profit performance. Breakeven analysis is a tool which helps marketers evaluate the dynamic relationships between costs, volumes, revenues and profits with a view to making pricing decisions.

Market-oriented pricing

Up to this point, the approaches to pricing that have been discussed are those which begin from a consideration of the internal factors, i.e. the company's costs structures and target profit margins. In this section, market-oriented approaches to pricing are described. Market-oriented pricing begins from a consideration of factors external to the organisation, i.e. the marketplace.

Two broad alternatives are open to companies launching new products on to the market: skimming or penetrating. Skimming strategies involve setting high prices and heavily promoting the new product. The aim is to "skim the rich cream" off the top of the market. Profit objectives are achieved through a large margin per unit rather than by maximising sales volumes.

Skimming strategies can only really be employed where there is relatively inelastic demand. This is likely to be the case where the product has unique benefits and/or features which the consumer values. The strategy may have to be altered if competitors are able to produce a similar product. A common pattern is for the product innovator to set a high initial price in order to recoup as much of the company's investment, as quickly as possible. Competitors will inevitably join the market at some point if it is potentially profitable to do so and the innovator ultimately follows the downward trend in unit selling prices as supply increases.

Penetration strategies aim to achieve entry into the mass market. The emphasis is upon volume sales. Unit prices tend to be low. This facilitates the rapid adoption and diffusion of the new product. Profit objectives are achieved through gaining a sizeable sales volume rather than a large margin per unit.

Discriminatory pricing

Discriminatory pricing involves the company selling a product/service at two or more prices, where the differences in prices are not based on differences in costs. Discriminatory pricing takes one of several forms:

- a. **Segmentation pricing:** That is, prices are set to achieve an organisation's objectives within each segment. Customers in different segments will pay different prices, for the same product. Thus, refined sugar may be sold at a higher price in affluent urban areas and at a lower price in poorer rural areas.
- b. **Product-form pricing:** Here different versions of the product are priced differentially, but often not in proportion to differences in their costs. Kabota market two versions of a tractor-mounted wheat reaper; one with and one without a bundling attachment. The manufacturing cost of the attachment is less than \$300, but the difference between the two models is just over \$900.
- c. **Time pricing:** This involves varying prices seasonally. Typically this is done to encourage demand by reducing prices at times when sales are seasonally low and by raising prices to contain demand when it is strong and likely to outstrip supply.

Psychological pricing

Pricing has psychological as well as economic dimensions and marketers should take this into account when making pricing decisions. Quality pricing, odd-pricing, price lining and customary pricing are each forms of psychological pricing designed to appeal to the emotions of buyers.

Quality pricing: When buyers cannot judge quality by examining the product for themselves or through previous experience with it, or because they lack expertise, price becomes an important quality signal. Consequently, if the product is priced at too low a level then its quality may be perceived to be low as well.

Many products are marketed on the basis of their quality and the status which ownership or consumption confers on the buyer. The prestige of such products often depends upon the maintenance of a price which is high relative to others within the product category. It can happen that if the price is allowed to fall then buyers will perceive an incompatibility between the quality/prestige image being projected and the price.

Odd pricing: Odd pricing can create the illusion that a product is less costly than it actually is, for the buyer. An odd numbered price, like \$9.99, will be more appealing than \$10, supposedly because the buyer focuses on the 9.

Price Lining: Since most organisations market a range of products, an effective pricing strategy must consider the relationship among all of these product lines instead of viewing each in isolation. Product line pricing is the practice of marketing merchandise at a limited number of prices. For instance, a wine company might have 3 lines of wine, one priced at \$15, a second at \$25 and a third at \$45. These price points are important factors in achieving product line differentiation and enable the company to serve several market segments.

Both seller and buyer can benefit from product line pricing. Buyers can select their acceptable price range and then concentrate on other features, e.g. styling, size, colour, etc. and so product line pricing serves to simplify the customer's buying decisions. Sellers can offer specific lines in a limited number of price categories and avoid the management costs and complexities of having a large number of different prices.

Product line pricing can be an effective strategy in expanding a market by adding new users. Potential buyers can be converted to first-time buyers because they are attracted by the lower priced products in the range. Once these buyers have developed a liking for the product they can be encouraged to trade up to a higher priced product within the range.

The skill in price lining lies in selecting price differentials which are sufficiently far apart for consumers to distinguish between them, but not so far apart that a gap is left for competitors to fill. In the previous chapter, in which product management was discussed, reference was made to the case of the manufacturer who was considering marketing a tree lifting machine. That same manufacturer, although experiencing the problem of gaining acceptance among distributors because it did not have a range of tree care equipment to offer, was able to gain customer acceptance by exploiting a price gap in the market. At that time, existing tree moving machines were priced at up to £2,000 and then the next range of models retailed at over £5,000. The company adopted the strategy of meeting the needs of that market segment that was able to pay more than £2,000, but less than £5,000 by pricing its own model at £3,300.

Customary pricing: In some markets and in the case of certain low cost products, such as confectionery, root vegetables and, in some instances, staple foodstuffs, there is widespread resistance to even modest price increases. Under such circumstances a common strategy is to maintain the unit price as far as is possible whilst reducing the size of the unit. This is termed "customary pricing". Thus, although the price of a chocolate bar is held for a long period of time, during that same period the size of the bar might have been reduced several times. When prices must be raised, an often used compensatory strategy is to increase the size of the pack, bunch, bar or lot, but by less than a *pro rata* amount.

Geographical pricing

Geographic considerations sometimes figure in pricing decisions. The main options are:

FOB pricing: With FOB pricing all customers pay the same ex-factory price and the goods are placed free on board (FOB) a carrier, at which point the title and responsibility pass to the customer, who pays the freight from that point onward. Sales contracts will specify whether the terms are "FOB factory" or "FOB destination." In the case of the former, purchasers pay all transportation costs beyond the factory gates whilst in the case of the latter the supplier meets all of the costs incurred up to the point where the goods are delivered to the customer.

FOB pricing is fair in so much that each customer picks up his own transport cost. The disadvantage is that for more distant customers a supplier operating the FOB factory pricing system will seem a high cost source of supply. The buyer's problem is overcome if the supplier applies FOB destination pricing, but the supplier's profit margin can be eroded to a substantial extent.

Case 8.3 Kenya Seed Company's Uniform Pricing Strategy

KSC was jointly owned by the Agricultural Development Corporation (ADC) and the Kenya Farmers Association (KFA). The commitment of the ADC to promoting the development of Kenya's agricultural sector was reflected in KSC's uniform delivered pricing for certified maize seed.

Maize is Kenya's staple food and is therefore a crop on which farmers primarily depend. KSC was keen to ensure that farmers had ready access to the seed the company processed in its Kitale factory. To this end, KSC hybrid maize was sold nationwide at the fixed retail price of K.sh.40 (40 Kenyan Shillings) per 10 kg bag. KSC's initial pricing strategy had been to supply middlemen at a uniform price but it had found that retail prices varied enormously as each distributor added his own margin to the procurement price.

KSC tackled its problem by copying the distribution strategies of Coca Cola and Wilkinson razor blades. The basic idea behind these strategies was to achieve widespread distribution of the seed at uniform prices to the farmer by giving retailers an attractive but fixed margin. The strategy encouraged retailers to actively promote KSC's seed but discouraged them from

increasing their margins. The strategy also served to promote the use of certified seed, in place of farm-saved seed, and prevented price discrimination against more remotely located farmers. As a result the aim of promoting agricultural development was also furthered by the uniform delivered pricing strategy implemented by KSC¹⁰.

Uniform delivered pricing: Uniform delivered pricing is the opposite of FOB pricing. The company adopts pan-territorial pricing. The selling price incorporates a freight charge never explicitly identified as such to the buyer which is an average of total freight costs. This system has the advantage that it is easy to administer and the company can advertise its prices nationally. There is always the problem, however, that those customers situated in close proximity to the manufacturer will find cheaper supplies from other manufacturers in the locality offering FOB prices.

Zone pricing: Zone pricing falls between FOB origin pricing and uniform delivered pricing. The company sets up a series of geographical zones. All customers within a zone pay the same total price and this price is higher in the more distant zones. This system can work well enough except that the dividing line between zones has to be drawn somewhere. Customers falling just to the right and the left of the line will be asked to pay quite different prices even though they are close to one another.

Freight absorption pricing: The seller who is anxious to do business with a certain customer or geographical area might absorb all or part of the transport cost in order to get the business. This is termed freight absorption pricing. The seller might reason that gaining more business will result in lower average costs and that this will more than compensate for the extra freight cost. Freight absorption pricing is useful in achieving market penetration and also in holding on to increasingly competitive markets.

Promotional pricing: From time to time organisations might temporarily reduce prices to increase sales. This is promotional pricing and it takes several forms. *Loss leaders* are specially selected products which are sold at low prices to attract customers in the hope they will also purchase regularly priced merchandise. The technique is commonly employed in retailing. The items chosen to be reduced are normally staple foods and beverages like tea, bread, roller meal, milk, etc., in other words, products which people buy regularly and are therefore aware of their *normal* price. Not only does the loss leader bring customer traffic into the store, it can also give the outlet the image of being a value-for-money store. Sellers will also use *special event pricing* to bring in customers when otherwise business might be slow. Stores often have special sales just after major seasonal holidays when trade is traditionally down. Manufacturers sometimes offer *cash rebates* to customers when they buy a product from a dealer within a given time period. This is commonly used in the marketing of agricultural machinery. Other manufacturers offer low-interest financing, longer warranties or free maintenance to reduce the consumer's 'price'. Or, the seller may simply offer discounts on the normal list price to stimulate sales and reduce stocks.

Whilst our discussion of pricing strategies has been fairly extensive, so far we have omitted the important topic of transfer pricing. That is, the pricing strategies open to organisations when transferring goods and services between different departments, divisions and/or subsidiaries belonging to the same parent organisation. The reader will find a discussion of transfer pricing in appendix 8A at the end of this chapter.

Administered pricing

So far, this discussion of pricing has assumed that the marketer has freedom in arriving at pricing decisions, but this is not always the case. In many countries, developing and industrialised, the prices of some food and agricultural products are government controlled. The extent of controlled, or administered, pricing has declined markedly over the past decade; especially in the developing world where the practice was most prevalent. IMF and World Bank sponsored market

liberalisation programmes have invariably included the dismantling of administered pricing schemes in favour of price determination through the unimpeded interactions between supply and demand.

Westlake¹¹ defines administered prices as;

“...those which are imposed on the market by some external body.”

Westlake goes on to say that, in developing countries, administered prices are usually set by government or by a parastatal organisation acting on behalf of government. Prices are either administered throughout the marketing chain or at particular levels. Moreover, a pricing system can be a combination of market determined and administered pricing. Combinations of pricing systems can be administered in several ways.

First, prices may be administered at one or more points in the pricing system and determined by market forces at others. The system can lead to problems, as the Kenyan Government discovered¹². Until the late 1970s the Cotton Lint & Seed Marketing Board sold all lint at auction. Farmers were promised a pre-announced price based on expectations of the prices which would be achieved at the international auction. Thus the pricing and payment system was a mix of market determined and administered prices. Unfortunately it was unstable because the possibility existed that insufficient funds would be raised at auction to meet the pre-announced payments. The Board had to suspend the auction and sold lint to domestic spinners at administered prices calculated on a cost-plus basis.

A second approach is to allow a proportion of the total supply of a commodity to be traded under a formal administered price structure while the remainder is traded informally. This occurs in the case of staple food crops in many developing countries, where the output of large-scale producers, processors and traders is subject to price control, but where much of the output of small farmers trades informally at uncontrolled prices on parallel markets. (Small-scale trade is often subject to the same price control legislation, but the large number of participants and the traders' widespread nature makes law enforcement impractical). Westlake suggests that the existence of a parallel market does not necessarily frustrate the government's price objectives since there are usually close links between the two markets and the control of one can be used to control the other. Indeed it is not in the least unusual, according to Westlake, for substantial quantities of a commodity to be transferred back and forth between controlled and uncontrolled markets as it proceeds up the marketing chain.

A third hybrid pricing system is where a commodity is sold at market prices, but revenues are pooled before being disbursed to farmers. This system results in all farmers in the scheme receiving the same price. The system is termed 'revenue pooling' and differs from other forms of administered pricing to the extent that, once the system is established, the government can only influence the price indirectly through, for example, the imposition of taxes and levies. Revenue pooling often results in the farmer receiving different prices from those at which his particular deliveries sell, since the pooling removes the impact of short-term price instability.

Lastly, government intervention may be selectively applied to one sector of agriculture or another. For example, there may be intervention in the prices paid to small holders, but not to plantations or large estates, or vice versa.

The discussion of administered prices is extended in appendix 8B at the end of this chapter.

Chapter Summary

The task of pricing takes place within a dynamic environment and so an organisation must continually review its prices and the procedures employed in arriving at these prices. Enterprises have a hierarchy of objectives. At the apex of this hierarchy are the corporate objectives from which the organisation's marketing objectives are derived. Price is an element of the marketing mix, and so pricing objectives are defined in terms of their role within the marketing mix strategy.

When making pricing decisions, marketers have to take into account a range of factors. Internal

factors include company marketing objectives, the marketing mix strategy and cost structures. External factors include the state of market development, the pattern of supply and demand, the nature and level of competition and environmental considerations such as legal, political and economic events and social norms and trends. Pricing objectives can be classified into six major groups: (1) profitability, (2) volume, (3) competition, (4) prestige, (5) strategic and (6) relationship objectives.

The elasticity of demand indicates the responsiveness of buyers to price changes. Demand is said to be elastic if the percentage change in demand is greater than the percentage change in price; and is inelastic where the percentage change in demand is smaller than the percentage change in price. Unitary elasticity denotes that the percentage change in demand and percentage change in price are equal. *Ceteris paribus*, an increase in the price of a product will result in a fall in demand, and vice versa. However, if one or more of the major determinants of demand changes or there is a decrease in the price of complementary products would cause the demand curve to shift to the right. Four particular factors influence the price elasticity of demand: the availability of substitutes, the number of uses to which a commodity can be put, the proportion of income spent on a particular product and the degree of commodity aggregation.

Managers have to consider their costs when making pricing decisions. Costs can be broadly categorised as fixed and variable. Fixed costs do not vary with the level of production whereas variable costs vary directly with production levels. As production increases fixed costs are spread over a larger number of units and so average fixed costs fall. Average variable costs also fall, over a certain range of production levels, as the organisation benefits from economies of scale. However, at some point average variable costs will start to rise again as diseconomies of scale take effect. Since average variable costs tend to rise faster than average fixed costs fall, the average total cost rises too.

Market-oriented pricing begins from a consideration of factors external to the organisation, i.e. the marketplace. Market-oriented approaches to pricing include: discriminatory pricing, quality pricing, odd-pricing, price lining, customary pricing, F.O.B. pricing, uniform delivered pricing, zone pricing, freight absorption pricing, and promotional pricing.

In many countries the prices of some food and agricultural products are government controlled. Prices may be administered throughout the marketing chain or at particular levels or points. Some pricing systems are a combination of market determined and administered pricing.

Key Terms

Administered pricing	Elasticity of demand	Market penetration
Average fixed cost	Elasticity of supply	Market skimming
Average variable cost	Geographical pricing	Point of equilibrium
Breakeven point	Fixed costs	Psychological pricing
Cross-elasticities	Marginal analysis	Relationship marketing
Cost-plus pricing	Marginal cost	Return on investment
Diseconomies of scale	Marginal revenue	Variable costs

Review Questions

From the understanding of the material presented in chapter 8, give brief answers to the following questions.

1. What are the major types of objectives which organisations seek to achieve through their pricing decisions?
2. Name two events which might cause a demand curve to move to the right.
3. Complete the statement below:

A price cut will increase revenue only if demand is _____ and a price rise can only raise total revenue if demand is _____.

4. What factors tend to influence the degree of price elasticity of demand?
5. What three pieces of information are required before marginal analysis may be used in arriving at pricing decisions?
6. What did Gross mean when he differentiated between the basic price and the premium price?
7. What was Stoetzel's contribution to our understanding of how consumers perceive price?
8. Explain what is meant by skimming and penetrating the market.
9. Explain what is meant by discriminatory pricing.
10. Why might a bread baker employ customary pricing?
11. Which class of customer is likely to find uniform delivered pricing unattractive?
12. What form of pricing is said to be between FOB origin pricing and uniform delivered pricing?
13. How would you define the term, 'administered prices'?
14. Outline the chief characteristics of revenue pooling

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Chapter 9

Channel Management And Physical Distribution

This chapter focuses upon channel management and the related topic of physical distribution. The selection of distribution channels will impinge upon decisions about every other element of the marketing mix. Pricing decisions will be greatly affected by whether the company attempts to mass market through as many wholesale and/or retail outlets as possible, or purposively target a relatively small number of outlets offering its customers high service levels. The amount of promotional effort required of an organisation will be a function of how much, or little, of the selling effort is undertaken by the channels of distribution it uses. The product and/or its packaging may have to be designed to suit the storage and physical handling systems of the distributor.

Chapter Objectives

In this chapter an attempt is made to explain:

The purposes and forms of distribution channels

How intermediaries improve the effectiveness and efficiency of a marketing system

Sources of conflict in distribution channels

Considerations in developing a customer service policy

The behaviour of costs attached to physical distribution functions

The key elements of transport and warehouse management and

How vehicles can be routed in such a way as to control total transport costs whilst delivering an acceptable level of customer service.

Structure Of The Chapter

The chapter begins by explaining how distribution decisions relate to the overall marketing strategy. There then follows a discussion of the contribution which intermediaries can make to the efficiency and effectiveness of a marketing system and the key decisions to be made regarding the appointment of intermediaries. A description of the main types of intermediary is provided and this is followed by an explanation of what is necessary in order to market to middlemen. The topic of power and conflict in channels is given some consideration. Attention is subsequently focused upon the costs and functions involved in physical distribution. The key aspects of transport and warehouse management are discussed, as are vehicle scheduling models.

Channel decisions in relation to marketing strategy

Decisions relating to the channels of distribution for a product or service are part of the strategic marketing plan. In that plan, the target market will have been specified along with target levels of market share, market coverage, customer service and so on. The channels of distribution used

by an organisation must be capable of assisting in reaching these targets. Moreover, the establishment of a distribution system can take a long time, perhaps several years, and so decisions about the channels of distribution cannot be taken lightly, and have to be taken with a view to the longer term since it is not usually that easy to switch between channels.

A distribution channel may be defined as:

“...the set of firms and individuals that take title, or assist in transferring title, to a good or service as it moves from the producer to the final consumer or industrial user.”¹

The importance of channel decisions has not always been recognised. For a long time, marketers only gave thought to appropriate channels of distribution after the product had been developed. However, Bennett² claims that:

“... in today's competitive and increasingly global marketplace, managers plan for product distribution as they plan their products.”

The same author goes on to state that:

“Modern distribution systems are based on strategic planning, adhere to the marketing concept, focus on target markets, and are consistent and flexible.”

Strategic planning: Distribution channels must be compatible with the strategic marketing plan. If, for instance, a skimming strategy has been adopted or the product requires technical sales support, then mass marketing is probably inappropriate. Alternatively, if large volume sales are required in order to achieve particular profit targets, then selective distribution would be inappropriate.

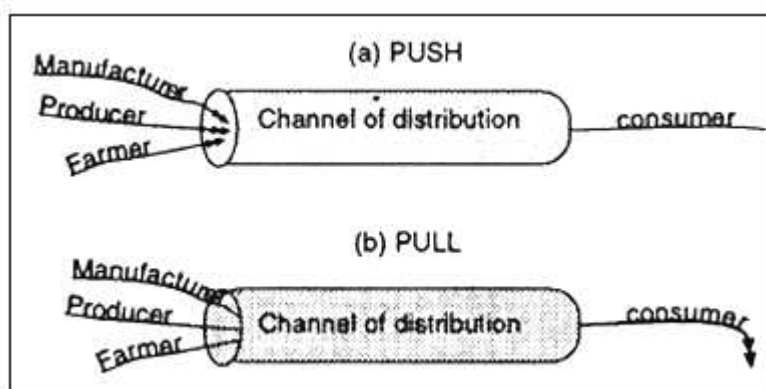
As new products are introduced, existing channels have to be reassessed since they may not be the right channels for the new product. In some cases, a company will decide not to launch a new product because it does not fit in with existing distribution channels and existing strategy. A few years ago Ciba, the Swiss chemicals company, was looking for new growth opportunities in the animal health market. Sales of its animal health and hygiene products for farm animals were beginning to plateau and the company considered diversifying into products for domesticated pets. The biggest barrier for Ciba was the differences in the distribution systems for the two markets. Ciba's strategy in the agricultural market was to deal with a small number of relatively large wholesalers, who then sold on to smaller wholesalers and agricultural merchants. This was a cost-effective distribution system for Ciba. However, the distribution system for health and hygiene products for pets is altogether more fragmented and would have involved dealing with very large numbers of very small independent stores. Ciba simply did not have the staffing levels to cope with a large number of accounts. Moreover, Ciba would have found the costs prohibitive since each store ordered very small quantities.

Another consideration is the stage of the product's life cycle. It can happen that as the product proceeds through its life cycle the appropriateness of the distribution channel can change. When developing the strategy, thought should be given to how the needs of the product might differ over its life span.

An organisation's distribution strategy is often interconnected with its promotional strategy. As figure 9.1 illustrates, the distribution system can be depicted as a channel through which products and services move from producer to end user. If the agribusiness concerned believes that its product(s) can be meaningfully differentiated from others on the market, then it may elect to direct the greater part of its promotional effort towards end users. This is termed a *pull strategy*, whereby the objective is to create such a strong preference for the product among end users that the resulting demand pulls the product through the channel of distribution. Where the product is perceived by end users to be a commodity (or one where there is little difference between brands) then the channel strategy of the agribusiness may be to target much of its promotional effort on intermediaries. If intermediaries can be persuaded to stock the product, in preference to those of competitors, then when customers visit a sales outlet and ask for a product by its generic

name it is the product of the company which is supplied. This is termed a *push strategy*. In practice, the promotional strategies of most agribusinesses will be a combination of pulling and pushing the product through the channel of distribution, but there is likely to be more emphasis on one or the other.

Figure 9.1 Push and pull strategies



Adherence to the marketing concept: Agribusinesses which themselves have adopted the marketing concept often experience a problem when their products and services have to be delivered to the end user through intermediaries who are more sales than market-oriented. This should be one of the primary criteria when selecting distributors, i.e. the degree of market orientation. In many cases, the producer or supplier will find it difficult to find market oriented intermediaries and in these instances will have to embark on training and education programmes.

Target marketing: Another important criteria on the selection of distribution channels is the extent to which these focus on the specific market segments that the producer or supplier wishes to penetrate. For example, Sri Lanka's Farm Service Centres distribute a wide range of agricultural inputs to smallholders but do very little business with plantations and estates. Therefore, Farm Service Centres would be the wrong type of outlet to handle, say, coconut or tea harvesting equipment since these crops are mainly grown on large estates or plantations.

Thus, it can be seen that channel decisions are central to the organisation's overall marketing strategy. Bennett² puts it succinctly when he makes the point that:

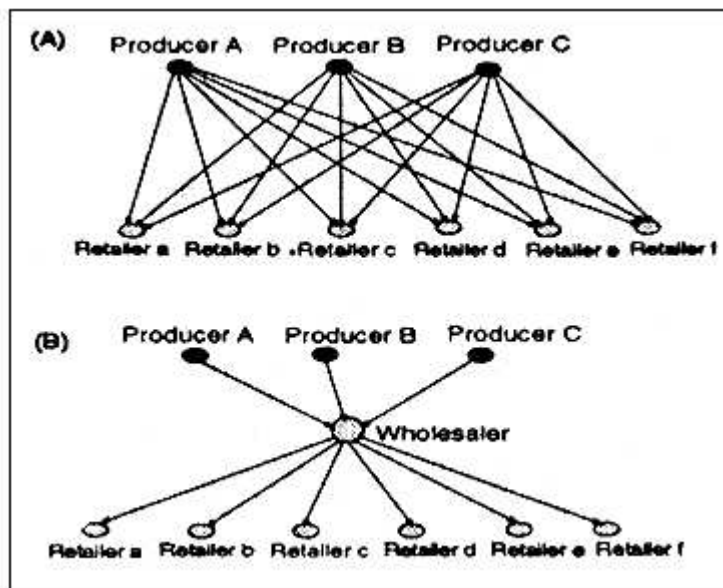
“Channels are interlocking, highly interdependent, and often complex. Effective distribution is not a patchwork quilt of randomly selected channel members; rather it requires a carefully planned network whose members have clearly assigned functions. The flow of products from manufacturer to wholesaler to retailer to the final buyer depends on systematic, strategic planning and management.”

The value of middlemen

There are many functions to be carried out in moving the product from producer to customer. Those functions each require funding and, often, specialist knowledge and expertise. Few producers have either the resources or the expertise to carry out all of the necessary functions to get a product/service to the ultimate user. A middleman's remuneration should depend upon the number of marketing functions he/she performs and, more especially, by the efficiency with which they are performed.

The advantages of using middlemen as opposed to marketing direct to end-users can be demonstrated very easily. The efficiency of most marketing systems is improved by the presence of effective intermediaries. This is illustrated in figures 9.2 a and b. These show that an intermediary between a number of producers and consumers reduces the number of transactions and thereby procurement and selling costs and time are all reduced.

Figure 9.2 A direct marketing system and a marketing system with intermediaries



A middleman's existence is justified just so long as he/she performs marketing functions which others cannot or will not, or can perform his/her marketing functions more efficiently than can the producer and/or alternative intermediaries. Gaedeke and Tootelian³ cite three additional reasons why middlemen are commonly employed by producers:

- intermediaries provide wider market exposure
- few producers have sufficient capital to market direct and
- producers can usually earn a higher return on investment by employing available capital in activities other than those of direct marketing.

All too often, in developing countries, middlemen are dismissed out of hand as parasites. The argument made is that it is the producer who, by the sweat of his labour, provides the physical commodity and it is he/she who deserves to gain most from marketing transactions in that product. When it is observed that marketing costs are sometimes four or five times the price paid to the farmer, a sense of injustice can arise. However, the value, if any, that the intermediary adds to the product, by virtue of the functions performed, must be taken into account. McVey⁴ states that:

“You can do away with the middleman but you cannot do away with his functions.”

In other words, those functions have to be carried out by someone and the expense and risk of doing so has to be met. The real question is not whether middlemen are needed but whether the middleman's remuneration is commensurate with the levels of risk carried and the services provided in the form of marketing functions performed. Furthermore, intermediaries can only be justified if they can perform these functions more efficiently and effectively than the other actual or potential market participants.

Key decisions in channel management

There are a number of key decision areas pertaining to the appointment of intermediaries. These include: price policy, terms and conditions of sale, territorial rights and the definition of responsibilities. In addition, a choice has to be made between extensive and intensive coverage of the market.

Price policy: List prices, wholesale/retail margins and a schedule of discounts have to be developed. These have to reflect the interests of the intermediary, as well as those of the producer/supplier if lasting alliances are to be formed with channel members.

Terms and conditions of sale: In addition to price schedules the producer/supplier must

explicitly state payment terms, guarantees and any restrictions on where and how products are to be sold. If the product enjoys a sizeable demand then the producer/supplier may evaluate intermediaries on the basis of performance criteria such as the achievement of sales quota targets, inventory levels, customer delivery times, etc. Intermediaries whose performance is below target may have their right to handle the product withdrawn.

Territorial rights: In the case of certain products, distributors will be given exclusive rights to market a product within a specified territory. This happens, for example, with agricultural equipment. In deciding upon the boundaries of territories the manufacturer or supplier has to strike a balance between defining territories which are sufficiently large to provide good sales potential for distributors but small enough to allow distributors to adequately service the customers within the territory.

Definition of responsibilities: The respective duties and responsibilities of supplier and distributor have to be clearly defined. For instance, if a customer experiences a problem with a product and requires technical advice or a repair needs to be effected, then it should be immediately clear to both the supplier and the distributor as to which party is responsible for responding to the customer. In the same way, the agreement between the producer/supplier and the distributor should clearly specify which party is responsible for the cost of product training when new employees join the distributor or new products are introduced.

The intensity of distribution i.e. the total proportion of the market covered, will depend upon decisions made in the context of the overall marketing strategy. In simple terms there are two alternatives: skimming the market and market penetration. These strategies were described in the previous chapter. It will be remembered that a skimming strategy involves being highly selective in choosing target customers. Normally, these will be relatively affluent consumers willing and able to pay premium prices for better quality, sometimes highly differentiated, products. It will also be recalled that a penetration strategy is one where the decision has been made to mass market and the object is to make the product available to as many people as possible. The decision as to which of these is adopted has with immediate implications for distribution strategy. Three principal strategies these being; intensive, selective and exclusive distribution.

Extensive distribution: Those responsible for the marketing of commodities, and other low unit value products, are, typically, seek distribution, i.e. saturation coverage of the market. This is possible where the product is fairly well standardised and requires no particular expertise in its retailing. Mass marketing of this type will almost invariably involve a number of intermediaries because the costs of achieving extensive distribution are enormous. In developing countries, the decision to sell commodities nationwide has, in the past, been more often politically inspired than the result of commercial judgements. Many marketing boards, for example, have discovered just how great a financial burden pan territorial distribution can be and have found their role in basic food security incompatible with the objective of breaking even in their finances. In fact, except in social marketing of this nature, it is rare to find organisations which try for 100% distribution coverage. It is simply too expensive in most cases. Where commercial organisations do opt for extensive distribution, channels are usually long and involve several levels of wholesaling as well as other middlemen.

Selective distribution: Suppliers who appoint a limited number of retailers, or other middlemen, are chosen to handle a product line, have a policy of selective distribution. Limiting the number of intermediaries can help contain the supplier's own marketing costs and at the same time enables the grower/producer to develop closer working relations with intermediaries. The distribution channel is usually relatively short with few or no intermediaries between the producer and the organisation which retails the product to the end user.

Selective distribution is common among new businesses with very limited resources. Their strategy is usually one of concentrating on gaining distribution in the larger cities and towns where the market potential can be exploited at an affordable level of marketing costs. As the company builds up its resource base, it is likely to steadily extend the range of its distribution up to the point where further increases in distribution intensity can no longer be economically justified.

Exclusive distribution: Exclusive distribution is an extreme form of selective distribution. That is, the producer grants exclusive right to a wholesaler or retailer to sell in a geographic region. This is not uncommon in the sale of more expensive and complex agricultural equipment like tractors. Caterpillar Tractor Company, for example, appoints a single dealer to distribute its products within a given geographical area.

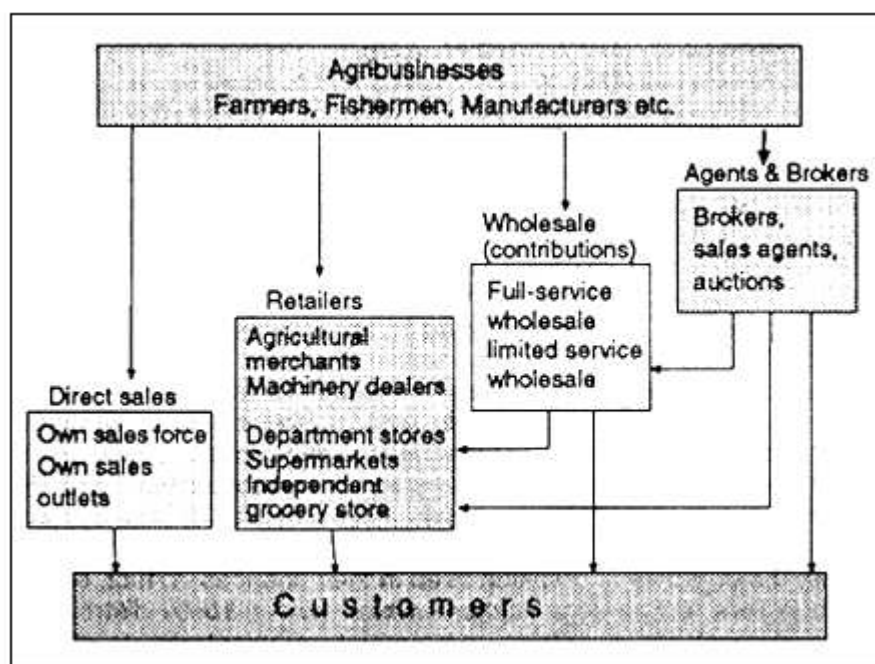
Some market coverage may be lost through a policy of exclusive distribution, but this can be offset by the development and maintenance of the image of quality and prestige for the product and by the reduced marketing costs associated with a small number of accounts. In exclusive distribution producers and middlemen work closely in decisions concerning promotion, inventory to be carried by stockists and prices.

The details of an exclusivity agreement can have important ramifications for both producer and distributor. Some involve tied-agreements where an enterprise wishing to become the exclusive dealer for a given product must also carry others within that agribusiness's product line. For instance, a chemicals manufacturer could have a fast selling herbicide and will tie the exclusive distribution for such a product to a slower moving specialist product like a nematocide.

Agribusinesses which are considering becoming involved in exclusivity agreements need to be aware of their legality. In some markets, exclusivity agreements are either prohibited altogether or are restricted in some way because they are judged, by regulatory authorities, to lessen competition in the marketplace.

Types of distribution system

Figure 9.3 The principal types of distribution system



Direct marketing systems: Where distances between producers and consumers are short, direct transactions between the two groups can take place. Farmers who elect to market their products directly have to trade off the benefits of doing so against the time they are away from farming activities. In the case of industrial markets, direct transactions are common where there are a relatively small number of customers (e.g. equipment designed for abattoirs).

Retail institutions: The retail sector includes a wide range of outlets such as merchants, equipment dealers (in the case of farmers), department stores, supermarkets and smaller grocery stores. They are characterised by their dealing with the end user of the product or service.

Wholesalers: Wholesalers make marketing systems more efficient by buying a variety of products, in fairly large quantities, and selling these items on to other businesses who require

relatively small quantities of a variety of goods. Wholesalers may service consumer and/or industrial retail outlets. For instance, fruit and vegetable wholesalers often sell to both grocery stores (consumer) and hotels, hospitals, schools, prisons, etc. (industrial). Some wholesalers offer a full-service i.e. they perform all the distribution functions such as selling, pre-delivery inspection (in the case of machinery), technical advice, extension of credit, storage, and delivery. Other wholesalers provide only a limited service. An example would be cash-and-carry wholesalers who require customers to collect the goods and to pay cash. Patrons of cash-and-carry wholesalers are usually compensated for the lower service levels by lower prices.

Sales agents and brokers: Sales agents and sales brokers are distinguished from the other types of channel member already described in that they do not take title to the goods. The role of agents and brokers is to facilitate distribution by bringing buyers and sellers together. Sales agents often have close relations with particular growers/processors/manufacturers and contract to sell on their behalf in return for a commission. Some agents negotiate sales for a number of non-competing clients, whilst others handle sales for only one client and usually have the exclusive right to do so, within a specified geographic area. In many respects the sales agent behaves as though he/she were an extension of the client's own sales organisation. Brokers, on the other hand, earn a commission for informing buyers of possible sellers and informing sellers of possible buyers. Clients use the services of a broker intermittently since their supply of the product to the market is intermittent.

Whilst figure 9.3 is helpful in structuring a discussion on the different types of distribution system, it is an oversimplification and this has to be recognised. For instance, whilst sales agents and wholesalers are categorised separately in this diagram, they often operate together. This is common in fruit and vegetable wholesale markets where sales agents sell produce, on a commission basis, on behalf of growers.

Case 9.1 Marketing Small Ruminants In Indonesia

The village collector is a key figure in the marketing system since 50% of the animals are handled by him. He usually lives in the locality and provides several services vital to the effective operation of the marketing system. He bears at least part, and often all, of the risks inherent in trading by taking legal title to the animals. If an animal cannot be sold on a particular day or has to be sold at a low price then these costs are borne by the village collector. He also helps finance trade by paying the farmer 50% of the agreed price immediately and the balance after the next market day. The village collector also meets the transport costs. He increases the efficiency of the marketing system since unit transport costs are lower when several animals are transported to market. In Indonesia, most ruminants are farmed by smallholders who usually have a single animal to sell at a given time. Sometimes the village collector performs a storage function too by holding animals until market prices are acceptable.

Smallholders have alternatives to selling to the village collector. There is usually more than one village collector and also sedentary and itinerant “blantiks” or livestock traders who intercept farmers enroute to the market and strike a deal. Sedentary traders work a single market whilst itinerant traders trade in several markets. Neither the sedentary nor the itinerant trader is as familiar to the farmer as the village collector.

Another player in the marketing system is the “makelar” or broker. There are 2 types of brokers; the commission broker and the floor-price broker. Commission brokers charge a fixed selling fee. If the animal remains unsold then the farmer pays nothing to the commission broker. Floor-price brokers agree a price for the animal with the farmer. The broker then attempts to

sell the animal above this price. If successful, he keeps the difference between the floor-price and the actual price as his margin. Unsold animals remain the property of the farmer.

The system serves producers well. Smallholders' supplies are erratic in that they send animals usually one at a time at irregular intervals to the market. However, since 1 in 5 rural households keeps sheep and/or goats there is, in aggregate, a stable supply to the market. The market itself is stable in that demand is fairly constant throughout the year except during periodic religious feasts when demand and prices can increase substantially. Thus the village collector makes an important contribution to the marketing system for small ruminants. He buys, taking title and, of course he sells. He also helps perform other marketing functions, including assembling, finance, transportation, storage and risk bearing. In addition when he fattens the animals he adds value to the product.

Itinerant and sedentary traders represent an alternative marketing channel for smallholders. The itinerant traders perform a similar range of marketing functions to those undertaken by the village collector. Their only disadvantage is that they are not generally as well known to smallholders as the village collector. Sedentary traders actually have more in common with brokers than with either village or itinerant traders in that they act more as an agent than a buyer. The sedentary trader offers fewer services to the farmers and therefore his margin tends to be lower than that of other types of trader. Arguably, brokers perform only two functions, i.e. selling and market intelligence. However, their existence does extend the level of competition in the system. The low level of services offered by brokers perhaps explains why 80% of the farmer's trade in small ruminants is through traders⁵.

Auctions: Auctions are frequently used to transfer ownership of agricultural commodities. The system involves bringing prospective buyers and sellers together under the auspices of an independent auctioneer. The auctioneer is an employee of the organisation managing the auction market. Neither the auctioneer nor his/her employer participates in buying or selling the commodity on their own account. The auction company makes its profits from facilitating the purchase and sale of the commodity. The auctioneer invites bids for specific lots with the produce being sold to the highest bidder. Two distinct methods of auctioning may be employed: upward bidding and the Dutch method (or clock auction). The upward bidding method is where the auctioneer declares a starting price for the lot and prospective purchasers offer increasing amounts until a point is reached where no further bids are received because no one is willing to go beyond the value of the last bid. The Dutch method traditionally makes use of a clock that moves in a downward direction. The auctioneer displays an opening price on the clock and invites bids. If no bids are forthcoming then the auctioneer causes the clock hand to display decreasing prices. At the moment a bid is made the clock is stopped and the sale is made.

Auction selling makes prices transparent since all of the buyers and sellers present hear the bids and are therefore aware of prevailing price levels.

Vertical marketing systems: This is a system in which the producer(s), wholesaler(s) and retailer(s) act as a unified system. Usually one channel member owns the others, or has contracts with them, or has franchises with others in the channel. The argument for vertically integrated marketing systems is based upon increased efficiency of the system by the removal of duplicated services. They also achieve economies through size, bargaining power and reductions in potential conflicts of interest. In some instances there is a physical coming together of operations and enterprises such as when an abattoir and packhouse physically integrate to provide slaughter, processing, packing and cold store services within a single enterprise. On other

occasions the integration has no physical dimension. Examples include:

Franchisers operate by vertically linking several levels of the marketing system. Thus Coca Cola 'wholesales' its syrup concentrate (product) to franchisees who carbonate and bottle and distribute the brand (processing, packaging and physical distribution) to consumers who have been targetted by Coca Cola's heavy advertising (promotion).

In many parts of the world agricultural equipment manufacturers supply machinery (product) to appointed distributors who are given exclusive rights to sell and maintain their whole goods and parts (physical distribution and service) within a specified geographical area. The manufacturer will often provide sales support (promotion) to authorised dealers. In return, these independent distributors agree to abide by the manufacturer's decisions regarding pricing, service levels, stockholding policy and a wide range of other terms and conditions.

Small scale retailers have responded to the competitive advantage of supermarkets by voluntarily integrating their buying and/or wholesaling and marketing operations. This has enabled them to achieve lower operating costs and to offer consumers lower prices than they otherwise could. Some of these organisations, such as SPAR enjoy a high profile among consumers across a large number of countries around the world.

Horizontal marketing systems: Channels can also develop into horizontal marketing systems in which two or more companies, at the same channel level, cooperate to pursue marketing opportunities. The basis of the marriage is that in combining resources and expertise the partners can achieve some goal that individually they could not. Thus, for example, a seed company and a grain merchant might set up a joint venture to offer farmers a complete package where he buys certified seed from the new enterprise which guarantees to buy his/her grain crop at prevailing market prices.

Strategic alliances of this type are likely to increase in the future. In newly liberalised markets they can be especially useful in protecting local agribusinesses whose low level of capitalisation, outdated technology and inexperience of operating within a competitive marketplace makes them vulnerable when foreign competitors with better resources enter their market.

Marketing to middlemen

No matter how well a product meets the needs of customers, without effective and efficient distribution it is unlikely to succeed in the marketplace. However, it would be misleading to suggest that producers or suppliers were entirely free to choose which organisations should form the channel for their product (s). In reality, the distribution strategy adopted by most producers more often reflects what is possible rather than what is ideally desired. McVey⁴ underlines the point when he states that:

"The middleman is not a hired link in a chain forged by a manufacturer, but rather an independent market, the focus of a large group of customers for whom he buys."

Case 9.2 Dealer Relations At Caterpillar

Caterpillar Tractor Company has 230 dealers in over 140 countries handling its range of agricultural, construction and marine machines and engines. Having this extensive and high quality distributive system recognised both by the company, and the end-users of its products, as giving Caterpillar a strong competitive advantage.

Caterpillar pursues a dealer policy with the twin objectives of assisting in strengthening the profit performance of these independent businesses and enabling them to deliver an

outstanding level of service to their customers. The implementation of this policy is evident in the terms and conditions applied to the sale of parts and equipment, the heavy investment in the parts supply system, the commitment to product training and the encouragement given to dealers to diversify their businesses. Terms and conditions of sale: Caterpillar operates a sale-or-return policy for all products and parts. This encourages dealers to carry the full product line and to enhance customer service levels by holding a very large number of parts in stock. Parts supply system, the heavy investment which Caterpillar has made in both computerising its inventory management system and in maintaining extensive parts inventories helps further improve customer service levels. Caterpillar dealers around the world are able to give fast parts delivery to their customers on any item. Almost all dealers in North America, Latin America, Europe and the Middle East can directly access Caterpillar's computerised inventory management systems and those of other dealers.

When launching new products, Caterpillar first establishes a two month parts supply within its dealerships. Dealers never find themselves in a position where they are unable to service a new machine. Product training: Caterpillar recognises that the dealer's personnel have to understand customer needs well enough to supply the right product. Accordingly the company sponsors a large number of training programmes for staff from its dealerships. Sometimes these programmes involve sending large numbers of dealer personnel to different countries and continents to attend courses or demonstrations and the financial outlay is considerable. The company is equally committed to keeping its own staff updated on product developments. Dealer diversification: Caterpillar positively encourages its dealers to diversify into other related businesses including the renovation of parts, which makes Caterpillar's machines cheaper to repair for customers. Dealer diversification also strengthens the financial base of those dealerships.

Competitors seeking to either penetrate Caterpillar's markets or attract its dealers face a difficult task. The Caterpillar dealer network is committed to marketing Caterpillar products. In part, this commitment is explained by the support dealers receive from Caterpillar, in the form of computerised stock systems, sale-or-return agreements, product training and the assistance given towards business diversification, but it is also a product of the company's basic attitude towards dealers, which is summed up in the words of its chairman, Lee Morgan. "We approach our dealers as partners in the enterprise, not as agents or middlemen."⁶

Thus, we are advised by McVey to see all members of the channel we wish to use as customers and we must market *to* them not *through* them. To successfully market to middlemen we must:-

- | | |
|------------------------------|--|
| Understand their problems | Milk marketers in India became aware that small retailers had only a limited amount of room to stock fresh milk. The solution was for the milk processor to make several deliveries during the day. The same system exists in certain parts of Canada. |
| Understand their competitors | Wakomet, a manufacturer of hammer mills and plate mills in Nigeria sold their products through independent number of machinery distributors in various parts of Nigeria. Their distributors complained that there was a prejudice in favour of imported hammer mills, although there was very little difference in the |

	designs of foreign and domestically manufactured mills and no real difference in their performance. Wakomet observed that dealers representing foreign-made hammer mills rarely took care to import a range of screen sizes with each machine. Consequently, Wakomet convinced their dealers to stock 3 popular screen sizes for every hammer mill. Thus, anyone buying a Wakomet hammer mill could easily switch from milling sorghum to millet, for human consumption, and could also process grains suitable for poultry feed. This gave Wakomet dealers and products a competitive edge.
Understand their customers' needs and wants	Zimbabwe Cotton Marketing Board came to appreciate that the spinners, who were the customers of the brokers, merchants and trading houses handling cotton, wanted advice from their suppliers on the best cotton characteristics to produce a given quality of spun product. CMB established a 24 hour advisory service, for these middlemen, and so helped their customers, the middlemen, to help the spinners. Thus, CMB enabled their customers to offer a level of service to spinners which others found difficult to match.
Understand their relationship in the channel distribution	During the mid 1980s Lesotho began to export canned white asparagus. When initial shipments were being planned, contact was made with large retail organisations in a number of European countries. It became clear that the emphasis in these organisations was upon selling large volumes of low cost foodstuffs. Because of the early stage of development of production and the methods of production, the Lesotho asparagus is relatively expensive, but high quality. The product is consequently retailed through European epicure and delicatessen outlets which specialise in selling premium-priced quality products and where sales volumes are more closely matched to Lesotho's production levels.
Be aware of changes in distribution trends:	The only thing which is certain about tomorrow is that it will be different from today. The distributors of agricultural products do undergo change over time. New forms of distribution emerge, such as supermarkets and the technology of distribution changes. Agribusinesses must continually review their current distribution arrangements and monitor developments within the distributive channels.

Power and conflict in distribution channels

Within a distribution channel there is usually a balance of power, and the characteristics of the channel are shaped by the manner in which power is exercised. Sometimes the balance of power in a channel lies with the producer/manufacturer and in other it lies with the intermediary. Moreover, there is always the potential for conflict between channel members.

Case 9.3 Changing Tanzanian Distribution Systems For Lake Victoria Fish

Rosson suggests that the planners of development projects pay too little attention to the need for reform of traditional distribution systems when they seek to modernise agricultural production systems. His concern, in particular, is that power imbalances between producers and intermediaries are often the major constraint to attempts to improve production systems. He cites the case of the modernisation of Tanzania's Lake Victoria fisheries. The production system was backward, with the fishermen working from traditional canoes and relying on paddles for power and gill nets to make their catches. The government was interested in both improving the economic lot of its fishermen and increasing the supply of this high protein food for its consumers. The key to the situation proved not to be the modern fishing technology which the government was

willing to finance, but the entrenched interests of the middlemen who provided a ready market for the catch, broke the catch down into small lots for individual consumers and helped finance the fishermen by supplying capital for equipment and cash advances during the seasonal troughs. The fisherman often had to pledge future catches to the lender as repayment for the loans.

Thus fishermen were locked into a system which new technology alone would not break open. If the intermediaries chose to they could consider the additional volumes of fish caught, as a result of the fishermen having access to more modern technology, as a 'glut', and pay reduced prices. The fisherman would have little alternative but to accept what he was offered because of his debt to the middleman and the distances between Lake Victoria and the major fish markets.

For as long as fishermen were forced to continue selling their fish into the traditional distribution system, mechanising Lake Victoria fisheries was likely to have only a limited effect on the incomes of the fishermen and the supply of this source of protein to consumers. Rosson's experience was shared by McHenry⁸ on a similar project to develop fisheries on Lake Tanganyika and by Lawson⁹ when he studied an attempt to change the fish distribution system in Ghana⁷.

Conflict between channel members can arise for one or more of the following reasons:

Incompatibility of goals: Organisations can have conflicting goals. A grower may want to grade the produce in order to achieve a price premium for the top quality produce or to develop a brand image, but the wholesaler may only be interested in selling large volumes of undifferentiated produce.

Confusion over roles and rights: For example, a grower may sell part of the produce through local agents and part direct to supermarkets. This may cause conflict because the local agent believes that all sales should go through him/her.

Differences in perceptions: Among the many potential differences in perceptions, which can result in conflict, are: who the customer is; what the market wants; the objectives of other channel members in participating in the market; and the role which other channel members play in helping the organisation achieve its own objectives.

Case 9.4 Sri Lanka's Rice Transplanter

Around 40% of the rice grown in Sri Lanka is transplanted as seedlings with the remainder of the crop directly broadcast. The work of transplanting is mainly carried out by women. It is an arduous and time-consuming task. The government-funded Farm Machinery Research Institute (FMRC), in association with the German development agency, GTZ, designed a mechanical 6-row rice transplanter. Once the machine was at the prototype stage a number of local agricultural machinery manufacturers were encouraged to adopt the design and take it on to production.

Almost all of the field research and testing for this machine was carried out in the vicinity of the research station. FMRC is located in the north of the country where the rural population density is low and, since there is relatively little pressure on the land, plant spacings are twice that of the much more densely populated southern provinces. The machine specifications were

adequate for northern transplanting conditions but in the south the life span of the times proved extremely short. Further R&D was quickly undertaken and an improved Mark II version was soon launched on to the market.

None of the manufacturers who had been involved in the production of the Mark I transplanter could participate in the relaunch because so much of their capital was tied up in stocks of the Mark I model whose sales were very slow due to the adverse publicity given to that machine. FMRC went ahead and contracted a separate group of agricultural machinery manufacturers to produce the Mark II transplanter. The Mark I was made obsolete and sales of that model ceased altogether. The group of manufacturers who were left with stocks of the Mark I felt betrayed by an organisation which they had supported in bringing one of its innovations to market. Not surprisingly, FMRC has found it difficult to persuade this group of companies to engage in the production of any of its subsequent machinery developments. Since the firms are Sri Lanka's largest agricultural machinery manufacturers FMRC's mission to introduce improved and affordable machines and implements to Sri Lanka's farmers has been greatly handicapped.

The case of Sri Lanka's rice transplanter illustrates how conflict can arise though goal incompatibility. FMRC's exclusive concern was for the farmers whom it considered to be its target beneficiaries. It did not recognise that the manufacturers were also legitimate stakeholders since FMRC's mission could not be achieved without a thriving and vibrant domestic agricultural machinery manufacturing sector. The case also serves to demonstrate the dire consequences of confusion over rights and responsibilities. Whilst FMRC could argue that it had no legal obligations to the manufacturers of the Mark I transplanter, it would appear that it did have a moral obligation to avoid actions which would exacerbate the financial difficulties of companies that had entered into the production of the machine in good faith. The level of interdependence between FMRC and the agricultural machinery manufacturers was high and so the probability of conflict was also high. FMRC has R&D facilities but no mass production capability and so relies entirely upon manufacturers being persuaded to take up its innovations and developments. Like manufacturers in most developing countries, Sri Lanka's agricultural machinery companies have very limited R&D resources and so there is a measure of dependence on institutions like FMRC for new products. Lastly, and possibly most important of all, the transplanter case highlights the problems which can arise from differing perceptions. FMRC perceived itself to be a farmer-oriented development institute with no direct interest in profitability. FMRC did not perceive itself to be part of the channel of distribution for agricultural equipment. The truth is that FMRC's mission could only be fulfilled if the machines it developed could be commercially successful. This being the case, FMRC had to be interested in the commercial viability of the machines it was developing and that of the companies which would have to manufacture them if they were to reach the farmer. This was clearly the perception held by the manufacturers who engaged in the production of the Mark I rice transplanter.

Members of a distribution channel can also differ in how they perceive themselves. There is an argument as to whether the 'distribution channel' is more than an abstract academic concept. Whilst manufacturers and producers may think in terms of a distribution system, intermediaries do not necessarily see themselves as part of some other party's 'system', but instead consider themselves as independent operators. If intermediaries do lack a systems orientation, then there are additional prospects of conflict since they will be, naturally, reluctant to compromise their own interests in deference to those of the distribution system as a whole.

Degree of interdependence: The greater the degree of interdependence between two members of the distribution channel, the greater the potential for conflict. This is because the actions of one directly impinge upon the performance of the other.

Physical Distribution

Gaedeke and Tootelian¹⁰ define physical distribution as:

"...all activities involved in planning, implementing, and controlling the physical flow of raw materials, in-process inventory, and finished goods from point-of-origin to point-of-consumption. The main activities include customer service, inventory control, material handling, transportation, warehousing and storage."

Case 9.5 Physical Distribution: A Leader, Or Just a Supporter?

Bowersox et al.,¹¹ provide an interesting perspective on the relationship between marketing strategy and physical distribution practices. These authors relate the story of the development of the cut flower market in the USA.

Cut flowers have to be distributed very quickly. Even if they are treated with a preservative, such as silver nitrate, their shelf-life is fairly limited. Californian growers were among the first to develop special containers which helped slow the rate of deterioration in cut flowers. These containers precooled freshly cut flowers in the field, held flowers in different quantities, were designed to fit aircraft hold dimensions and were easy to handle.

The traditional marketing channel for cut flowers was flower shops. These were considered inappropriate when the objective was to expand demand for cut flowers. Market research suggested that only 2.5 percent of households regularly purchased cut flowers but that there were opportunities to induce the public to buy more flowers and more often. Flower shops, however, were oriented towards special occasions such as weddings, funerals, gift days etc. Growers wanted to mass market their produce and so department stores and food chains were targeted because these outlets enjoyed much higher levels of customer traffic.

Research also revealed that many consumers considered the unit price too high for them to purchase cut flowers regularly. The grower's response was to abandon the convention of selling in packs of a dozen stems. They brought down the unit price by packaging in smaller bundles. Roses, for instance, were marketed in lots of three. Having decided on the size of the sales units, flowers were packed in the field accordingly.

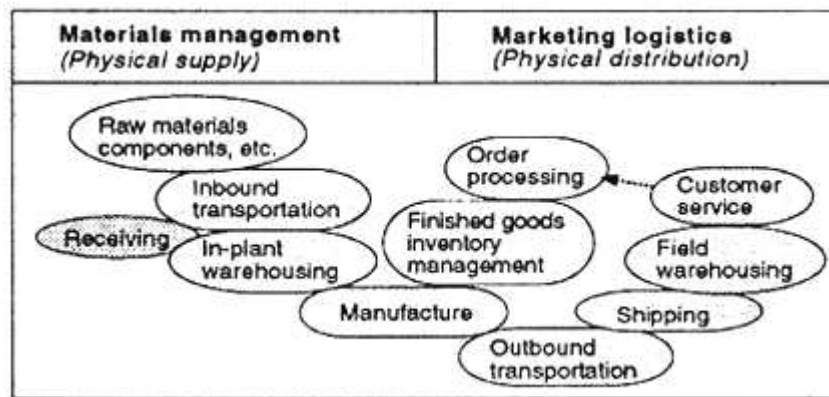
To persuade retailers to stock cut flowers margins had to be competitive with those of other products competing for the limited floor space available. Growers invested in the design of a merchandising unit which minimised the floor space required

and maximised the impact on prospective purchasers. In addition, because research showed flowers to be an impulse purchase and more likely to take place at the end of a store visit than at the beginning, growers encouraged retailers to position the merchandising units at the checkout counters. These tactics served to increase the profitability of cut flowers to retailers.

This case illustrates how physical distribution and marketing tend to interact. The changes in physical distribution practices required a change in marketing strategy in order to be effective, and vice versa.¹¹

Thus, it is suggested that physical distribution has two components: materials management and marketing logistics. Materials management is concerned with physical supply operations such as procurement and the storage and movement of raw materials to and through processing into a finished product. Marketing logistics deals with the transfer of finished goods to intermediaries, final buyers and end-users.

Figure 9.4 The elements of business logistics



Physical distribution is often viewed as a necessary support system for the organisation's marketing programme. However, there is an alternative, and more creative perspective which can be taken and that is to see an efficient physical distribution system as a potent marketing tool in its own right, and one which is capable of creating a competitive advantage for the organisation. An organisation which is able, for instance, to supply a wide variety of products speedily at specified times helps reduce the inventory holding costs of the intermediaries being served. Thus the level of interest in the way physical distribution is managed is explained by its potential as a powerful marketing instrument, the opportunity to realise significant savings in marketing costs and by the importance of physical distribution to customer service levels.

Customer service levels

The level of customer service provided by a company is part of the marketing mix. In some instances, a company offers an exceptionally high level of customer service as the principal means of differentiating itself from competitors. Customer service levels are as pertinent to the intermediaries which the agribusiness serves.

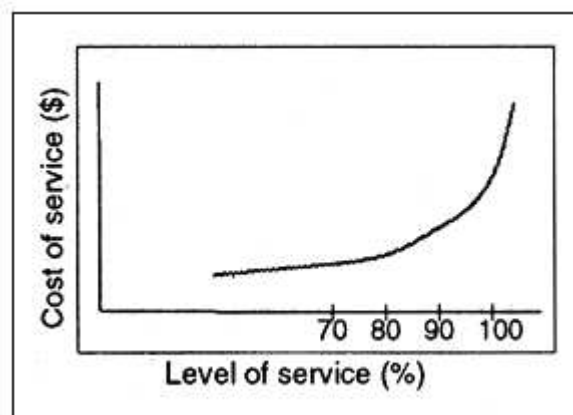
For many customers the level of customer service provided by the agribusiness enterprise is as important as any other attribute which it may possess, including the excellence of its products. There are aspects of customer service which have little to do with physical distribution, such as the after-sales service, warranties and the handling of customer complaints, but a large part of customer service is effected through the physical distribution function. A wide range of criteria may be used in evaluating the service level offered by an agribusiness but these are likely to include:

- timeliness of delivery

- order size and assortment constraints
- order cycle time, i.e. time interval between order placement and delivery
- percentage of items out of stock
- percentage of times an item cannot be supplied from stock (or within a prescribed number of days from order placement)
- percentage of orders filled accurately
- percentage of orders arriving in good condition,
- ease and flexibility of order placement, and
- competitors' service levels.

Maintaining high levels of customer service carries heavy costs and can only be justified when doing so results in marketing opportunities which otherwise would not be realised. At the same time, the logistics manager must monitor the effects of operating a given level of customer service on profitability. As figure 9.5 seeks to illustrate, as the customer service level gets nearer to 100 percent, the costs of doing so rise sharply. This means considering the trade-offs between the costs involved and the service level offered. It is possible, after all, to provide a level of service above that required or appreciated by the customer. There is likely to be no discernible difference in the service levels of two suppliers, one of whom is able to immediately supply a spare part from stock on 99 of 100 occasions and another who is able to supply from stock on 97 of 100 occasions.

Figure 9.5 The relationship between customer service level and cost



Developing a customer service policy

Given the need to deliver a level of customer service which is acceptable to the market and the level of cost which can be incurred in doing so, it is important to approach the establishment of a customer service policy in a systematic way. A six-step procedure is recommended as follows:

1. Identify the key aspects of service: This step involves determining which aspects of service are important to customers, otherwise resources can be misdirected. It is also necessary to find out how customers measure service levels. Marketing research and the organisation's sales force can help in identifying key service elements and how these are measured.
2. Establish the relative importance of each aspect of service: It is likely that aspects of customer service will vary in their importance to customers and an organisation will wish to concentrate its resources on those which really matter to the customer. Again, marketing research can help ascertain the key service elements upon which to focus.

- | | |
|---|--|
| <p>3. Determine how, if at all, the key aspects of service, and their relative importance, vary in different market segments:</p> | <p>The process of segmenting a market is based upon a recognition that customers vary in their needs and wants. So, too, might their assessment of what are important aspects of customer service.</p> |
| <p>4. Assess current organisational competitiveness on customer service, in each market segment:</p> | <p>Customers and potential customers can be asked to make comparisons, on the key service elements, between the organisation and its main competitors in each major segment of the market.</p> |
| <p>5. Develop cost-effective customer service packages for each of the main market segments:</p> | <p>Targets should be established for each element of the service packages, e.g. 80 percent of parts will be available from stock or will be despatched within 3 working days, a minimum of 98 out of 100 orders will be delivered without damaged items, 90 percent of all orders will be delivered complete. Such standards have to be based upon a careful assessment of the organisation's capabilities, the attendant costs and what is acceptable to customers.</p> |
| <p>6. Establish monitoring and control procedures:</p> | <p>Once standards have been established, the organisation must put into place monitoring systems to check on what is actually being achieved so that remedial action can be taken at an early stage. Feedback on the levels of service being achieved should be given to personnel involved in delivering the service. Such feedback can be a powerful motivation.</p> |

Case 9.6 International Harvester Goes POP!

Concerned over an increasing number of complaints, from around the world, about product defects, both from farmers and agricultural machinery dealers distributing International Harvester's equipment, IH introduced the POP programme into its factories. POP, or Pride-Of-Performance, sought to reduce the number of defective products leaving the factory to as near zero as possible. This involved making changes to the methods of production, plant layout, quality inspection procedures and bonus schemes for production workers. What proved an important aspect of POP was the practice of, each week, publicly displaying the percentage of products which had emerged from the manufacturing process entirely without defect. Figures were also displayed for each stage of production and for each working shift. For example, as a tractor was built up along the production line quality inspectors checked it at discrete points before giving it permission to proceed to the next stage in production. In this way, the figures could be broken down so that the performance of each working shift and each group of workers (e.g. those responsible for engine assembly, gear box assembly, chassis construction, etc.) could be seen by everyone in the factory. The scheme was designed to encourage personnel to take a pride in the quality of the product (and sub-assembly) they contributed towards producing.

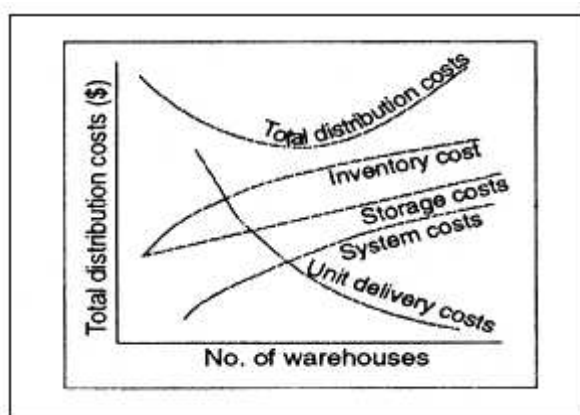
POP was widely regarded to be a success both within the company and among its various customer groups. Although POP was initially focused upon production activities, it was later successfully extended into other company operations, including distribution departments. A little later POP was also extended into the pre-delivery inspection and service work of IH's independent dealerships.

The total distribution concept

The total distribution concept and the total cost approach are widely applied by managers of physical distribution. They are based on the notion that all elements of physical distribution are so interdependent that a decision made about one element will impact on some or all of the others. Thus, for example, the decision to reduce the number of depots operated by a grain merchant may well reduce costs associated with staffing, wastage, and inventory levels but will also increase transportation costs. The real question is whether the savings in one area match, exceed or fall short of the increased costs in another.

Since, in general, physical distribution managers appreciate that their challenge is to minimise the total costs of the distribution system, rather than the costs of a particular element, they tend to employ the total cost concept. To this end, management must calculate the trade-offs between three categories of cost: transportation costs, order processing costs and stockholding costs. Figure 9.6 shows the general relationship between these different categories of cost.

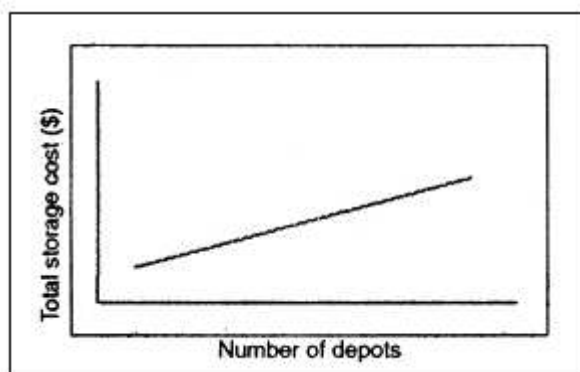
Figure 9.6 The components of the total costs attached to physical distribution



Storage costs: Because of economies of scale a large warehouse can be operated at a lower cost than can several smaller warehouses. These economies include the fact that larger warehouses are often better able to achieve better utilisation of space and equipment, overheads incurred in a large warehouse can be spread over a higher throughput of stock items and the amount of money tied up in stock tends to be less for a large depot than for several smaller warehouses¹¹. In addition, each separate site will require its own management team and this increases distribution costs further. At some point, however, diseconomies of scale set in and the single central warehouse becomes less attractive in financial terms. This happens, for instance, when depots reach a size where they are difficult to manage and the distances between the warehouse and many of the organisation's customers is so great that transport costs rise to unacceptable levels and the level of service to the customer is adversely affected.

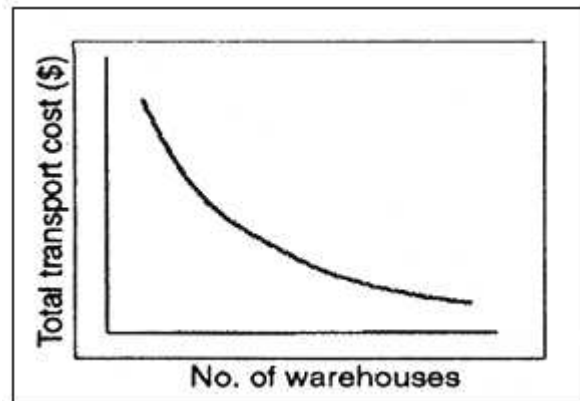
As figure 9.6 shows, increasing the number of warehouses will, almost invariably, increase storage costs but this may be necessary to meet customer expectations with a minimum standard of service.

Figure 9.7 The effect of increasing the number of warehouses upon total storage costs



Transportation costs: As can be seen in figure 9.7, the increase in storage costs may be offset, either in whole or in part, by savings made in transportation costs. As the number of warehouses increases, unit transport costs decline due to lower mileages being travelled by delivery vehicles.

Figure 9.8 The effect of increasing the number of warehouses on total transport costs



For most manufacturers and producers transportation is the major physical distribution cost.

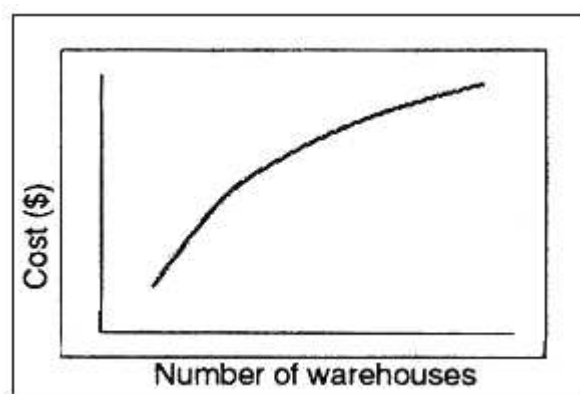
Inventory carrying costs: The cost of maintaining sufficient stocks to meet any level of demand is usually prohibitive. Instead, the firm seeks to reach a balance between inventory carrying costs and an acceptable level of customer service.

Among the chief determinants of inventory carrying costs are:

- the greater the number of locations at which stock is held, the greater the level of stocks and carrying costs.
- longer order cycles result in higher stocks, and vice versa and
- as the product portfolio increases so does the amount invested in stocks

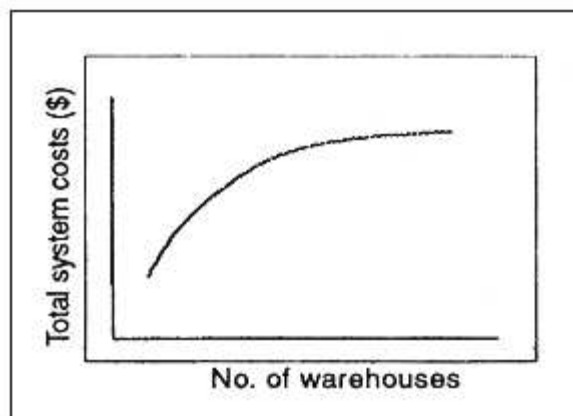
With respect to the effect of increasing the number of warehouses located in various areas, this would be, as was said earlier, to increase stock holding costs.

Figure 9.9 The effect of the increasing the number of depots on total inventory carrying costs



System Costs: The last category of the costs are those termed system costs. These include costs attached to order processing activities, the maintenance of information systems and communications between sites. The total cost of these services will, as figure 9.10 suggests, increase with number of sites.

Figure 9.10 The effect of increasing the number of warehouses on total system costs



Total distribution cost: At the outset of this chapter, it was emphasised that changes in one element of the distribution system can have a dramatic, and often unexpected effect on other elements of the system and upon the system as a whole. Hence the need to view the physical distribution system as a whole. Total distribution costs analysis can be used to this end. By bringing together the various types of distribution cost, the effects of proposed changes in one area of distribution can be assessed in terms of their impact on other individual elements and upon the system as a whole.

Direct product profitability: The conventional approach to assessing the profitability of products has been to average costs over the entire product range. DPP, or direct product profitability, is a process involving the allocation of all distribution costs, including space, to specific products and so arriving at a figure for the direct product costs (DPCs) then subtracting these from the gross margin of the products. McGoldrick's¹² explanation of DPP emphasises that distribution costs are a major component of direct product costs.

“The DPP of an item is therefore the gross margin, after adjustments, minus direct product costs (DPCs). These direct product costs arise at the warehouse, in transport, in the store and in the head office functions. The largest single element of DPC is likely to be incurred in the store. Here a cost is allocated, possibly using work-study techniques, for the labour involved in receiving, sorting, moving, price-marking, shelf-loading and checking out the item. A space cost is allocated, being a function of the square or cubic footage occupied and the rate of the stockturn of the item.”

Thus, DPP seeks to monitor the actual costs and profits involved in distributing a product. The adoption of DPP is motivated by the desire to identify and eradicate inefficiencies within the distribution system. In addition, since DPP has the potential to pinpoint the costs of delivering specific products to specific customers, it also has the potential to help in devising cost-effective marketing strategies. Some of the other areas of decision-making in which managers in manufacturing and retailing are applying DPP are:

- Shelf space allocation
- types of display to be used
- retail pricing
- types and level of promotion
- methods of delivery
- selection of new products
- product design, and
- packaging design.

DPP is a useful measure for manufacturers or producers, wholesalers and retailers but it does require a sound management information system in order to be able to perform the detailed calculations. It probably also requires access to a computer, although this need only be an inexpensive personal computer.

Just-in-time: The purpose of JIT is to eliminate all production activities which do not directly add

value to the product. The just-in-time (JIT) concept was developed with manufacturing in mind but it has implications for distribution. Whilst the organisations that have implemented this system tend to be large enterprises, the system also has implications for the smaller and middle-sized firms who may be their competitors, suppliers or customers.

JIT has four specific objectives¹³

- the production of goods that the customer wants
- the production of goods when the customer wants them
- the production of perfect quality of goods and
- the elimination of waste (in labour, inventory movement, space, etc.).

JIT ensures, for example, that components and raw materials arrive at the manufacturer's or processor's factory at the precise time they are required for production or processing. For JIT to work, there has to be good coordination of production schedules between suppliers and manufacturers/processors so that both parties can satisfy demand whilst carrying mini stocks.

The implementation of a JIT programme usually has a number of complementary elements. The most common are:

Pull scheduling	Where production is a function of 'demand pull' rather than 'schedule push'. This means that only the actual materials required for a production run are drawn from suppliers and this eliminates inventories;
Mixed production	Products are only processed or manufactured as orders are received for them. This eliminates stocks, improves cash flow and allows capacity to be switched to producing what is currently in demand;
Fast set up times	Investment is made in systems and equipment which allow almost continuous production of different products;
Preventative maintenance	Ensures unbroken production;
Revised plant layout	Redesigned to minimise handling and movement;
Total quality control	Systems for identifying and rectifying defects at source;
Supplier liaison	The extension of JIT to suppliers.

Organisations marketing to enterprises which have adopted JIT will find that new opportunities and challenges are created. The most likely effects of JIT are:

Strict quality control	The buyer will expect the supplier to have already carried out a pre-delivery inspection of the materials or components. This reduces the buyer's costs since, in theory, part of the quality control task is passed to the supplier. In addition, the quality standard is likely to be high or the economies promised by JIT will not be realised;
Frequent and reliable deliveries	To keep inventory to a minimum, manufacturers will ask for frequent, perhaps daily, deliveries. They will also insist that suppliers adhere precisely to the agreed delivery times and may apply penalties for early as well as late deliveries;
Relocation	It may be necessary for suppliers to relocate their production and/or warehouse facilities to be close to customers in order to consistently meet orders placed at very short notice;
Investment in new technology	It may be necessary to invest in modern, and expensive, production technology to match the quality targets of the customer. Even if this is not the case, investment in computer systems and communications equipment will almost certainly be necessary so that the supplier and industrial customer can coordinate their management systems to the extent required to achieve the goals of JIT;
Single supplier arrangements	JIT requires suppliers and customers to work closely on cost control, product development and design, improvements in production methods and so on. It is therefore common to find that adopters of JIT have reduced the number of suppliers with which they deal with. Sometimes

Value engineering

they rely on a single supplier with whom a long-term relationship has been developed;
JIT simultaneously pursues cost reduction and quality improvement. To this end, a customer will closely examine its own business operations and will also require suppliers to seek ways of reducing their own costs whilst maintaining or even improving the quality of their supplies.

Materials requirement planning: The materials requirement planning system (MRP) most commonly found in modern manufacturing or processing concerns is based on the Japanese Kanban system. MRP is a computerised inventory control system intended to minimise the investment in manufacturing/processing materials and components, consistent with matching production levels to current demand.

The word Kanban translates as ‘visible record’ which may be a ticket, job or route card, or a computer code. A computer is used to plan production over several periods and using the Kanban system automatically triggers the production or purchase of components or materials at the time they are required for the manufacturing or processing of the finished product.

All materials or components are lodged in specially designed containers which have two Kanban cards attached to them. Those responsible for the production or supply of the material or the component will make use of the P-Kanban whereas the users of those materials or components will use the C-Kanban (C = conveyance). Each container is *conveyed* between the work areas of the materials/parts producers and users with one kanban being exchanged for another along the way. The production of a part can only be undertaken if there is a P-Kanban to authorise it. In the absence of a P-Kanban the workforce will engage in other activities such as cleaning, maintenance, training etc.

The Kanban system removes the need for managers to forecast (or guess) what level of materials or parts must be held in stock to meet production/processing requirements and thereby reduces inventories. Kanban is intended to work within the context of a just-in-time production programme. Oakland¹⁴ says that:

“A JIT programme can succeed without a Kanban-based operation, but Kanbans will not function effectively independently of JIT.”

Materials Requirement Planning (MRP) has been extended into Manufacturing Resource Planning (MRP II). MRP II represented a move towards an integrated approach to the entire manufacturing process. Distribution Requirement Planning (DRP) applies the techniques of MRP II to warehousing and transportation activities.

Warehouse management

The functions of warehouses are to provide cost-effective storage, in suitable conditions, for the organisation's products and materials. The existence of a warehouse is justified by the extent to which it contributes to the efficiency and effectiveness of physical distribution functions. The main warehousing operations are listed in table 9.1.

Table 9.1 Warehouse operations

Goods Inwards	receiving - unloading and temporary hold checking - right goods received, grade, package, quantity, quality, damage or shortages record receipts and discrepancies unpack/repack if required
Warehouse Storage	consign goods to a specific area of store record goods location ensure stock rotation issue goods provide security against shrinkage

Order picking	order picking according to customer orders marshall or assemble goods by customer or vehicle load consign to vehicle loading area
Goods Despatching	provision of suitable loading areas develop efficient vehicle schedules

The geographical location of a warehouse should be determined by production sites and the physical position of target markets. In some developing countries, however, political consideration have sometimes over-ridden economic arguments and facilities such as warehouses, godowns, assembly areas and buying points for government organisation have been sub-optimally sited.

Warehouse managers have a number of important challenges including:

- determining the most appropriate unit load(s)
- optimising space utilisation
- reducing the movement of labour, equipment and products/materials to a minimum
- establish a safe, secure warehouse environment and
- keeping costs to a minimum.

Inventory management

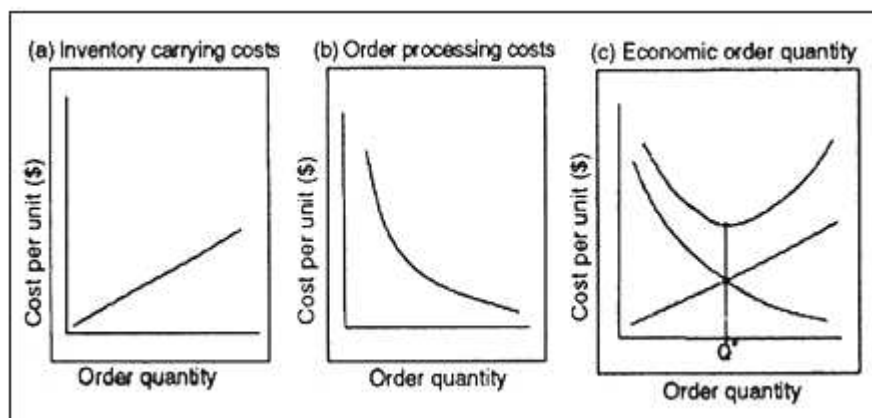
The management of inventory can have a major impact upon the profitability of an organisation. If inventory levels are too low then there is the risk of stockouts, i.e. the inability to meet an order. This can result in a loss of revenues, profits and customer goodwill. On the other hand, if the inventory levels are too high then the organisation can experience cash flow problems since so much of its capital is tied up in stocks. When inventory levels are high then there is also an increased risk of spoilage, pilferage and obsolescence.

Managing stocks involves balancing two sets of costs: Inventory carrying costs and order processing costs. Consider the position of a company making a range of biscuits and breads. For such a company wheat will be a major raw material. The company could be so anxious to secure supplies of this vital component of its finished products that it is prepared to place a single order for its total requirement for the next year. However, this course of action would maximise the bakery's inventory carrying costs, comprised of costs of capital, storage charges, insurance, depreciation, obsolescence and shrinkage. As Figure 9.11a illustrates, inventory carrying costs increase in line with the average stock held.

Since production within a bakery tends to be a batch process, the company could adopt an alternative approach and place orders large enough to ensure that wheat stocks are only just sufficient to meet the requirements for the next batch, i.e. a just-in-time approach. This would minimise the bakery's inventory carrying costs but would mean placing a large number of orders and so order processing costs would be maximised. Order processing costs include monitoring residual stocks, selecting a supplier (which could mean having to compare a number of alternatives), raising and processing a purchase order, checking goods inwards, and processing payment. Figure 9.11b indicates that if the bakery elected to place small order for wheat they would have to place a number of orders over the year and so order processing costs would be high. The same figure shows that order processing costs decline as the size of the orders increases and the number of orders placed declines.

The optimal order size is determined by studying how these two sets of costs interact. Figure 9.11c depicts the total inventory cost which is, of course, the sum of inventory carrying costs plus order processing costs. The optimal order size is at point Q, i.e. the lowest point on the total cost curve commonly referred to as the economic order quantity (EOQ).

Figure 9.11 The Economic Order Quantity



Calculating the economic order quantity

The calculation of the economic order quantity involves only simple mathematics. The following nomenclature may be used:

Let

O = the cost of placing a order

Q = quantity ordered

N = number of times that quantity is ordered,

$S = Q \times N$ (i.e the total number of units demanded)

C = cost per unit per annum

Order processing costs = $O \times N$

Average carrying costs = $C \times Q/2$

Total costs = $(O \times N) + C \times Q/2$

Since $NQ = S$ then $N = S/Q$

Total costs = $OS/Q + CQ/2$

Therefore $EOQ = \sqrt{OS/C}$

It will quickly be realised that the EOQ model, as just described, is an over-simplification of the real world. It does not incorporate such realities as the variation in sales volumes over time, variable lead times between order placement and delivery, discounts for purchasing in larger quantities and the need for safety stocks. If the EOQ model is to be useful in practice then it must be adapted to cope with these variables.

Order cycles and sales fluctuations: There are two basic approaches to incorporating sales volume variations in inventory management models: fixed order quantities and fixed order times. A fixed order quantity system allows time between orders to vary whilst the EOQ is held constant. A fixed order time system allows the size of orders placed to vary but the times between orders are fixed. Where the fixed order time system is applied, EOQ does not determine the order size. Instead, a forecast is made of demand over the next lead time and the size of the order to be placed is determined accordingly.

Both of these approaches have their advantages and the choice between them is entirely dependent upon the circumstances of the particular organisation. For instance, a supermarket chain might organise the scheduling of its transport fleet so as to minimise delivery costs. This could mean that each retail outlet is given a fixed delivery date for receiving orders. In these circumstances each store must place orders on a fixed time schedule but can vary its order quantities for each item. Where transport costs are not an overriding consideration then the same supermarket chain could apply a system of fixed order quantities but varying periods of order

placement, because order processing and inventory carrying costs outweigh transport costs.

It sometimes happens that an organisation will apply one system at the retail level and the other at the warehouse level. Consider, for example, the position of a large food retailer with multiple retail outlets and several regional warehouses. With each warehouse serving a number of large retail outlets the variation in sales is likely to be greater at store level than at warehouse level (the downward fluctuations in some stores will be compensated by upward swings in others). Where this is the case, a fixed order quantity system could be imposed at the warehouse level whilst a fixed order time system applies at the retail level.

Bulk purchase discounts: Where discounts are received for placing orders of a given size these must be taken into account because they affect the EOQ. The organisation has to conduct a trade-off analysis in order to determine whether the 'savings' accrued from placing larger orders and the lower order processing costs due to the need to place fewer orders, outweigh the additional inventory carrying costs. The additional carrying costs are calculated as follows:

$$\text{Additional inventory carrying costs} = C(Q_2 - Q_1)/2$$

Where

Q_1 is the EOQ before taking any quantity discount into consideration, and

Q_2 is the EOQ after taking any quantity discount into consideration

The savings accrued from placing fewer orders and incurring lower order processing costs are calculated as follows:

$$OS/Q_1 - OS/Q_2$$

A comparative analysis of the two sources of savings, those from bulk discounts and those from lower order processing costs- against the additional inventory carrying costs will guide management as to whether a quantity discount should be taken or not.

Safety stocks: Inevitably, there will be occasions when demand exceeds expectations. If an organisation has not anticipated this eventuality then a stockout will occur. If the item is a raw material or component then production will be interrupted and this will add to production costs. If the item is a finished good then customers will be adversely affected and their goodwill and custom may be lost altogether. Since the costs of a stockout are potentially great, organisations usually plan to carry a safety stock as a buffer between supply and demand levels.

Decisions relating to the levels of safety stocks involve a trade-off between additional inventory carrying costs and the costs of a stockout. If customers are likely to place the order elsewhere then the cost of a stockout is the contribution to fixed costs (i.e. the sales revenue minus the variable costs). If customers are lost forever, as a result of the stockout, then the cost is the present value of the discounted stream of expected future contributions on orders lost.

Transport management

A critical issue in the management of physical distribution activities is whether the organisation should own transport facilities or hire them. There are three types of carriers which an organisation might choose between when deciding how to ship its product; private carriers, common carriers and contract carriers. Where a company owns and operates its own transport fleet it is termed a private carrier. This fleet is not usually available to any party other than the owner. Common carriers are available to any party wishing to transport goods. Common carriers charge standard rates which are published and freely available to anyone who is interested. A contract carrier serves individual shippers on a medium to long-term basis. The contract usually extends over a specified period with an option to renew the contract.

Calculating the cost of owning transport vehicles

In order to make a decision as to whether the organisation should purchase its own transport vehicles or use a common or contract carrier, the costs of ownership must be calculated. The two elements of transport costs are the fixed costs and the operating costs. Some costs are incurred irrespective of whether the vehicles are actually moving or not. These fixed costs include such items as vehicle licence duties, insurance and interest due on loans obtained to purchase vehicles. Operating, or running, costs are a function of the distances travelled by the vehicle and include fuel, tyres and repair and maintenance costs. A list of fixed and operating costs appears in the table below.

Table 9.2 Fixed and operating costs of owning transport vehicles

Fixed Transport Costs	Operating Costs
Administration	Driver's overtime payments
Depreciation on vehicles*	Fuel
Driver's basic wage	Oil & other lubricants
Driver's licence fees	Repairs and maintenance
Garaging fees	Tyres
Insurance on vehicle	
Interest on loans	

* Depreciation is partly a function of distances travelled by the vehicle

A simple approach to calculating the depreciation on a vehicle would be:

$$\frac{\text{purchase cost} - \text{scrap value}}{\text{estimated physical life}}$$

Alternatively, if the organisation has a policy of replacing vehicles by selling them off at set intervals then the formula becomes:

$$\frac{\text{purchase cost} - \text{estimated resale value}}{\text{estimated period of ownership}}$$

It can be seen that only the purchase price and perhaps the estimated period of ownership, if the firm has a set replacement policy, will be fixed figures whereas the others will need to be estimated. In these circumstances it is sometimes useful to obtain estimates of depreciation from other sources. These might include:

- vehicle distributors, although these may tend to be optimistic or even exaggerated
- other vehicle operators
- vehicle insurers and/or
- financial institutions who give loans for the purpose of purchasing vehicles.

Unitisation in physical distribution

There are two aspects of unitisation of physical loads and these are palletisation and containerisation. Both palletisation and containerisation serve to reduce damage to agricultural and food products whilst these are in transit, and to increase the efficiency of the distribution system as a whole.

In international trade, there is a widespread adoption of a standard pallet size of 100cm × 120cm. Any exporter who ignores this standard when trading with countries that have adopted the standard will probably incur additional costs because of the need to repalletise the load. The argument in favour of a standard pallet size is simply that the operations of each of the parties in

the physical distribution system will be more efficient if they all work to a common pallet size. Ships, lorries, rail freight cars, aircraft holds and warehouses can be designed to handle the standard pallet size and achieve maximum utilisation of space¹⁵.

The introduction of trailer size containers has allowed various forms of transportation to integrate their services since these units are interchangeable between different modes of transport. Containerization has made possible the transfer of loads between ships direct on to road and rail-based carriers and, of course, between road and rail. The main advantages of containerisation are the minimisation of damage to the goods, little or no pilferage and handling times reduced to 50 percent of those achieved with other systems.

Technological advances in physical distribution

Computerised scanners: Modern retail supermarkets and wholesalers are increasingly using electronic scanners at the checkout to speed up customer flow and improve inventory management. This type of electronic point of sale (EPOS) system depends upon each product having been labelled with a unique bar code which can be read by a laser. The two main coding systems are the Universal Product Code (UPC), originating in the USA, and the European Article Number (EAN). Both coding systems have found acceptance in a large number of countries and are compatible with one another. The UPC system uses 11 digits whilst EAN uses 13 digits. The first five digits of the EAN code identifies the manufacturer or producer, the next five digits give specific product information, followed by two digits that denote the country of origin with a final check digit. These digits are represented by a series of alternate black and white bars, of varying widths, which are read by the laser scanner.

In addition to reducing the time which the customer spends at the checkout, computer linked scanners can instantly transfer the item sold from stock records to sales records. Not only does scanner technology add to customer convenience, it also provides the seller with a level of detail on inventories and sales which can significantly improve profitability. Scanners enable the distributor to not only record the product sold, or held in stock, but the pack size and the form of package. Thus, for example, a retailer using scanners will know that it is the 2 litre milk packs which are gaining in sales volumes whilst, perhaps, the 250 ml packs are increasingly slow to move off the shelves. This helps the retailer respond more quickly to changing consumer preferences and at the same time improves profitability through reducing wastage rates.

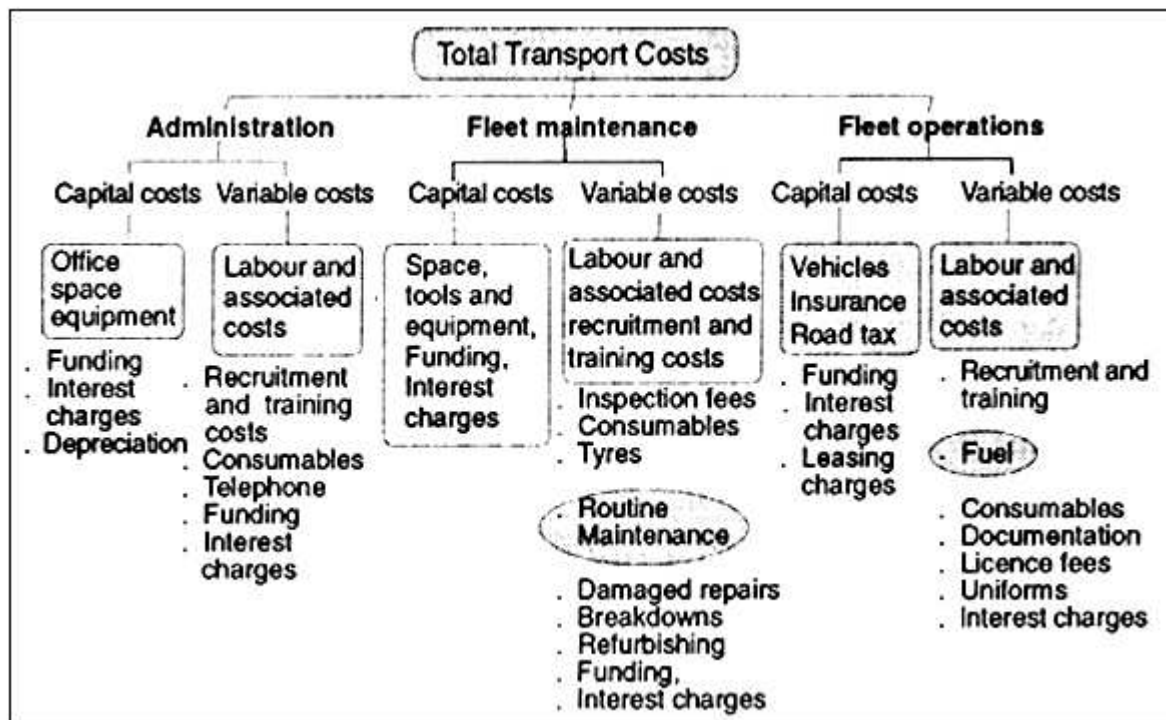
Vehicle Scheduling and Routing

Distribution is usually a sizeable component of total marketing costs. Moreover, the costs of procuring and operating transportation are generally high, sometimes prohibitive as this is often a very scarce resource. It follows that if transport facilities can be managed efficiently this can have a dramatic effect upon total marketing costs and the effectiveness of the firm's marketing system.

In turn, the efficiency and effectiveness achieved with the logistics operations of an enterprise are greatly influenced by the routing and scheduling of the vehicles available. Slater¹⁶ defines the problem of optimising the performance of the transport function in terms of load planning as follows:

“Load planning is a method or technique used to match existing customer orders with vehicles and available manpower by the generation of routes or schedules for vehicles. The efficiency of these routes or schedules determines the operating cost for the transport fleet and the potential customer service level offered by the company.”

Figure 9.12 The composition of total transport costs



Thus the motivation to work on maximising the efficiency of vehicle routing and scheduling lies in the potential to contain total transport costs whilst also retaining control over the level of services provided to customers. Where the enterprise operates a fleet of vehicles then load planning has the potential to minimise total mileage whilst maximising operating times, thereby enabling the organisation to reduce the size of its fleet or increase the number of customers/area of territory covered, or some compromise between the two.

Transportation costs are comprised of several major elements, as can be seen in figure 9.12. Nonetheless, it can be readily seen that vehicle scheduling efficiencies, or a lack of them, will have a major effect on total costs. In particular, load planning will impact upon the cost of fuel, labour, maintenance and vehicle depreciation.

Any manager charged with responsibility for the efficient operation of the transportation function will have a diverse range of factors to consider. These include the nature of the customers to be served, the vehicles available, labour force, company policies, the physical characteristics of loads, the environment and vehicle scheduling methods. These factors are more fully listed in table 9.3.

Table 9.3 Factors affecting vehicle scheduling

Manpower Characteristics	Vehicle Characteristics	Company Characteristics
Number of men	Number of vehicles	Customer service policy
Type of licence held	Type of vehicle (mix in fleet)	Vehicle operating policy
Training level	Maintenance/repair needs	Vehicle load capacity policy
Union operating restrictions	Carrying capacity	Product characteristics
Hours of work	Height/width	Depot locations
Shift patterns		Return load policy
Rota patterns		Operational target levels
Customer Characteristics	Environmental Characteristics	Routing and scheduling
Order patterns	Road pattern	Techniques adopted
Locations relative to depots	Road works	Legal requirements
Delivery point features	Climatic conditions	
Earliest/latest delivery times	Legal restrictions	

Day/night delivery		
Return load availability		

Slater goes on to illustrate how these factors are sequenced and how they interact, to impinge upon vehicle scheduling decisions.

Figure 9.13 Formulating the load plan

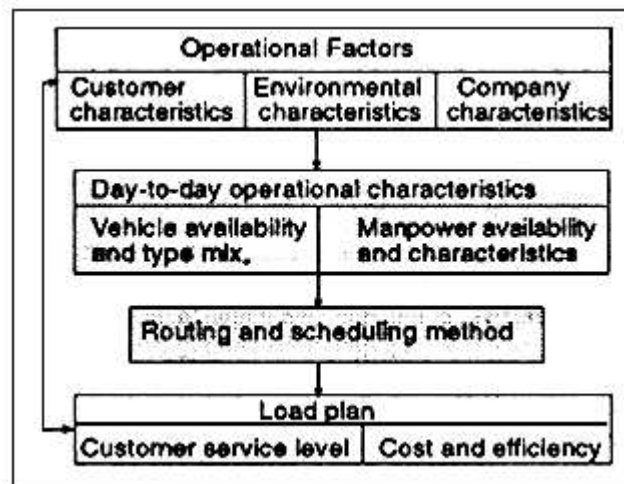


Figure 9.13 emphasises the principal objectives of vehicle routing and scheduling, i.e. the delivery of a given level of customer service, with maximum efficiency and at minimum cost.

Fixed and variable routing systems

At their most basic level, vehicle scheduling and routing methods are dichotomous: fixed routes and variable routes. In a “fixed route” system, vehicles follow a prescribed route each day and customer orders for that day are matched to the delivery route. The advantage of this system, to the customer, is that he/she knows the day and time of delivery, and he/she can plan accordingly. On the other hand, the system does not accommodate customers who require immediate delivery, unless by chance the vehicle was scheduled to be in their vicinity the same day or the day after the order was placed. In terms of efficiency, the “fixed route” system has fundamental shortcomings. It will only periodically happen that vehicle capacity and order levels, for a given day, will match exactly. On most occasions, vehicle capacity will be under-utilised or over-subscribed.

The “variable route” system is more customer oriented. This approach seeks to develop routes which match customer order patterns and is capable of amendment to meet fluctuations in day-to-day demand levels. Operating efficiency is improved since the number of drivers and vehicles on the road each day is determined by that day's order level and so total mileage and variable transport costs are minimised. However, there can be disadvantages of this system to customers since they are not always sure of the time and/or day of delivery.

It is sometimes possible to adopt a hybrid approach where a “variable route” system is operated within fixed geographical areas. Such an approach yields the benefits of both the fixed and variable routing system. Unfortunately, it does not overcome the problems of orders exceeding transport capacity, vehicle breakdowns or absenteeism on the part of drivers.

Vehicle scheduling tools

Vehicle scheduling can be a simple paper exercise or can become so complex that computer based mathematical models have to be used. Having a transport supervisor or manager plan the delivery schedule on the basis of a detailed knowledge of each driver's capabilities, the geographical area and the particulars of the customers have inherent advantages. However, fleets quickly become too large for individual personnel to produce scheduling plans which maximise efficiency and effectiveness at minimum cost. Moreover, in highly competitive markets,

physical distribution costs have to be carefully managed if the marketing margin is not to be entirely eroded. Thus, to some point, most organisations will have to give consideration to applying mathematical models to vehicle scheduling decisions. In most instances, these mathematical models will prove unready unless they are manipulated by a computer.

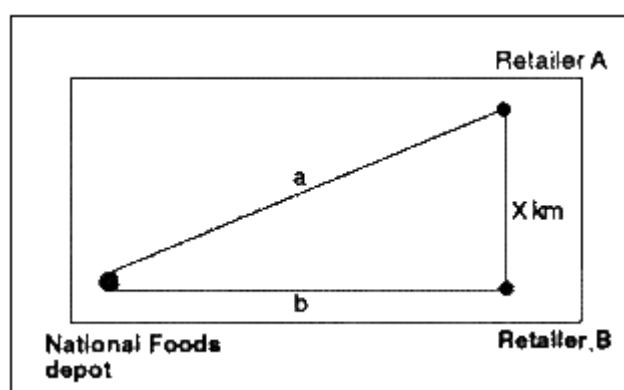
There are a number of standard computer “packages” available for the task of vehicle scheduling. The earliest versions of these packages were fairly inflexible in that they had certain in-built assumptions. Typical, an understandable, assumption might include vehicle capacity limitations, driver's time limitations, customer earliest/latest delivery times, etc. These computerised models did not incorporate all of the constraints placed upon the logistics operations of an enterprise. For instance, programmers could not anticipate how transport personnel would react to the “imposition” of a mathematically calculated route that test no cognisance of their local knowledge and experience or the idiosyncratic wishes of some customers. This being the case, programmers were unable to build in all of the factors which should be taken into account when designing a delivery route. As a consequence, computer generated vehicle schedules were sometimes sub-optimal, sometimes unrealistic and often resented by those who had to implement them. To improve computer-based routing, interactive computer scheduling has been introduced. Interactive computer scheduling allows the transport manager to alter any of the parameters in the mathematical model in line with his/her view of the real situation. Thus, contemporary computer-based vehicle scheduling models combine the manager's knowledge with the computer's ability to process complex mathematical models, quickly, to produce flexible schedules.

Vehicle scheduling models

There are a range of models which can be applied to vehicle scheduling. In this text, the savings method, the simplified delivery service model and the TRANSIT model will be briefly described. It is beyond the scope of this text to deal with the more complex computer-based scheduling models.

Savings method: Clark and Wright's¹⁷ “savings method” is perhaps the best known of all the vehicle scheduling models and can be applied either manually or via a computer. Suppose that retailers A and B, who are separated by x kilometers, both receive maize meal from National Foods' depot at O. This situation is depicted in figure 9.14.

Figure 9.14 The savings method



The distances between the depot at O and retailers A and B are a and b respectively. If two vehicles were used to make the two deliveries separately, the total distance traveled would be $2a + 2b$. Alternatively, if only one vehicle were used to make the two deliveries the distance covered over the round-trip is $a + b + x$. The saving achieved by assigning one vehicle to the round trip would be $(2a + 2b) - (a + b + x) = a + b - x$. More generally, the savings method formula is denoted as:

$$S_{ij} = d_{oi} + d_{oj} - d_{ij}$$

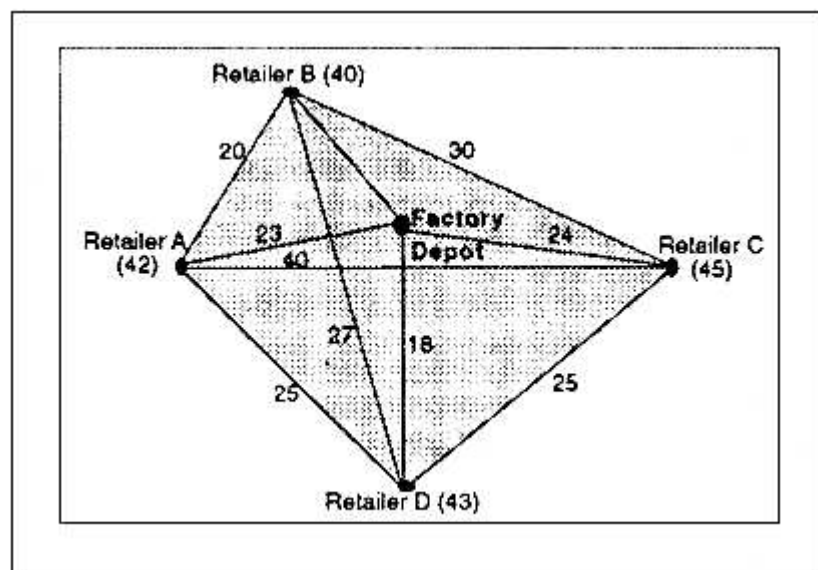
where,

S_{ij} = distance saved by linking together any two delivery points i and j .
 d_{oi} = distance between depot O and delivery point i
 d_{oj} = distance between depot O and delivery point j
 d_{ij} = distance between the delivery points i and j .

Where there are more than two delivery points a matrix of distances saved is developed. This matrix displays the distances between all delivery points and between the depot, or factory, or farm, and each delivery point. The first link to be chosen will be the one showing the largest saving, given two deliveries. The sum of the orders for these two deliveries will be checked against the vehicle capacity and drivers' time constraints. If the initial linking leaves spare vehicle and driver capacity then it might be possible to add other delivery points to the link by selecting the next biggest saving. Again a check is carried out to ensure that neither vehicle capacity nor drivers' time constraints is exceeded by the new combination of deliveries. The process continues to the point where all deliveries are scheduled or the available vehicles are fully utilised.

To better understand the method of calculating the savings accrued from linking deliveries, consider the hypothetical data in figure 9.15

Figure 9.15 Applying the savings method to a vehicle scheduling problem



(Note: Numbers in brackets indicate the order size).

Maximum driving day :8 hours
 Maximum Working Day :11 hours
 Average speed :30kph
 Maximum Vehicle Capacity :100 units
 Multi-trip turn-around time :30 minutes
 Delivery time per unit :2 minutes
 First route selected: OCDO is 67km with 88 (units) = 5.16 hours
 Second route selected: OABO is 54 km with 82 units = 4.53 hours
 Total Working time for both routes (including turn-around time) = 10.19 hours
 Total Driving Time for both routes = 4.03 hours

Figure 9.16 The savings method matrices

O				
23	A			
11	20	B		
24	40	30	C	
18	25	27	25	D

Distance Matrix (km)

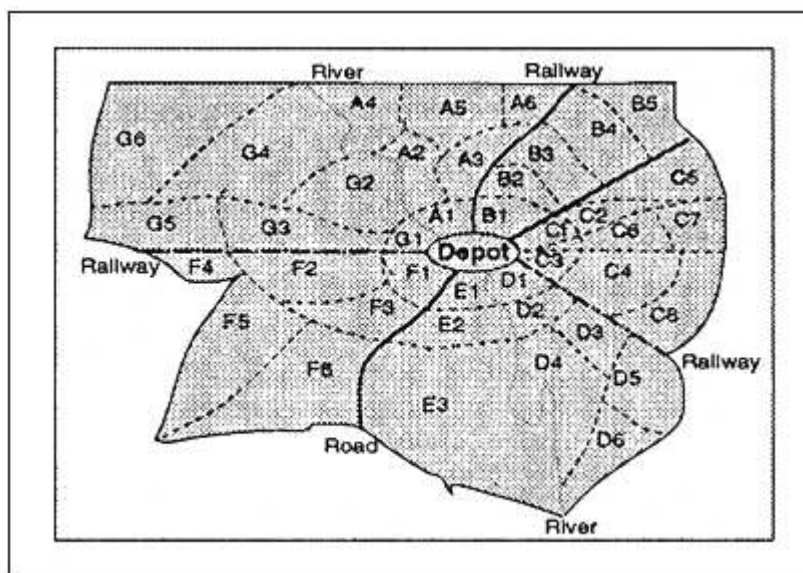
A				
14	B			
7	15	C		
16	2	17	D	

Savings Matrix (km)

The savings matrix shows that route O - C - D - O gives the maximum savings in terms of distance to be travelled (17 km). To service this route 88 units of product have to be carried and this is well within the vehicle's carrying capacity. It would take 5.16 hours to complete this route (2.23 hours driving and 2.93 hours to unload the 88 units). Once this route has been completed, retailers A and B are left awaiting delivery. The O - A - B - O route takes 4.53 hours to complete and can be undertaken within the time and capacity constraint. Indeed, as the data in figure 9.16 shows, both routes can be completed within the same working day.

The simplified delivery service model: The SDS model involves the geographical division of the marketing territory into sub-areas. Each sub-area is identified by an alphanumeric code (e.g. D2). The alpha part of the code indicates a main route from the depot into a particular sales area and the numeric component breaks that sales area into suitably sized sub-areas. These sub-areas are often but not always delineated by physical boundaries such as rivers, valleys, mountains, etc. Consideration is also given to the number of customers in each area categorisation used for the purpose of the simplified delivery service.

Figure 9.17 The simplified delivery service



As orders are received, a log is built up for each delivery point sub-area. Vehicle loads are built up starting at the remotest sub-area and working inwards to the depot.

The individual responsible for vehicle scheduling will only start to combine loads intended for different sub-areas when those territories are in close proximity to the depot (e.g. A1 to G1). The principal advantage of SDS is that the delivery system is made more efficient by following convenient routes which minimise delays caused by continually crossing difficult terrain. It is a method that is especially well suited to developing countries where roads are often poor.

TRANSIT: Transit is an acronym for Time Routing And Scheduling of Industrial Transport. Like

SDS, TRANSIT makes use of maps. The sales territory is overlaid with a grid with each square representing 10km square are allocated; as are driving times are allocated within each square. When this is done the scheduler follows a set procedure:

1. Orders are sorted for each 10 km square.
2. The 10km square furthest from the depot is identified.
3. The remotest 10km square is further divided into 1km squares and the orders re-sorted for each of these.
4. The scheduler begins to build up a load for the furthest 1km square.
5. As the orders are re-sorted, the total time required is calculated by adding together the driving time and the loading/unloading times for each delivery point and the driving time to the next delivery point.
6. The scheduler moves on to build up the load for the next most remote 10km square and so on.

The TRANSIT method tends to produce good, efficient and effective delivery times and make full use of the available vehicles. The routes themselves, however, are rarely as good as those produced by SDS because they take no account of natural barriers and difficult cross-country terrain.

Computer-based vehicle scheduling

Although having the benefit of simplicity, manual methods of vehicle scheduling tend to be inefficient. The task is mentally taxing and schedules are prone to making mistakes, resulting in a sub-optimal schedule. This has given impetus to the development of computerised models for vehicle scheduling.

The advantages of computer based scheduling include speed, accuracy and the potential to interface vehicle scheduling models with other components of the overall management information system (e.g. stock control, invoicing, sales analysis). The main disadvantages are that the software is complex, and is therefore expensive, and, of course, it requires a computer with a maths co-processor to run the model. Another disadvantage is that because of the complex algorithms involved in the model, most managers will not understand it well enough to correct data input errors. That is, the non-mathematical manager will fail to recognise errors in the schedules produced by the model. Robson³ however, puts a strong case for computer - based vehicle scheduling when he says that:

“Measured against present costs the likely benefits of computerised scheduling are still very significant. On a global scale it has been estimated that some 25% of the \$4,000 million spent each year on distribution could be saved by the increased utilisation of vehicles.”

Chapter Summary

Channel decisions are integral to the strategic marketing plan. Distribution systems should adhere to the marketing concept, focus on target markets and have sufficient flexibility to enable an organisation to respond to market changes and new market opportunities.

A middleman's remuneration should depend upon the number of marketing functions he/she performs and, more especially, by the efficiency with which they are performed. The efficiency of most marketing systems is improved by the presence of effective intermediaries. Whilst it is always possible to by-pass or remove intermediaries from a marketing system, the functions which they performed in the past will remain to be performed, as will their costs.

There are several key decision areas pertaining to the appointment of intermediaries. These

include: price policy, terms and conditions of sale, territorial rights and the definition of responsibilities. In addition, a choice has to be made between extensive and intensive coverage of the market. An important aspect of the relationship with intermediaries is the recognition that intermediaries are independent of suppliers and must be marketed to rather than *through*. Much of the conflict between parties within the distribution system arises from incompatible goals, confusion over roles and rights and differences in perceptions of the market. Moreover, the greater the degree of independence between two members of the distribution channel, the greater the potential for conflict because the actions of one party are likely to impinge upon the performance of the other.

Marketing logistics involves both materials management and physical distribution. An efficient system of materials management can be a potent marketing instrument, as can an efficient physical distribution system. As well as helping to control costs, these two areas of management can contribute greatly to the level of customer service achieved by the organisation. The level of service offered by an organisation can be as important, sometimes more important, to its prospective customers than any other attribute which it might possess.

Total distribution costs are very much influenced by procurement costs, inventory carrying costs, and transportation costs. Management needs to understand the interrelationships between these categories of cost and to develop an understanding of the trade-offs that must be made between them. There are a number of current developments in the field of logistics management which are likely to have a major impact on the way in which this function is managed in the future. These developments include: the drive by retailers to account for direct product profitability, the move towards just-in-time materials and product supply and the evolving methodology of materials requirement planning.

Inventories are a major cost element in the management of physical distribution and as such must be carefully controlled. Managers are required to find the economic balance between order processing costs and stockholding costs. At the same time, they need to consider order cycles, fluctuations in demand and the size of the safety stock required. In transport management the key issues relate to the efficient and effective scheduling and routing of vehicles. Three of the most commonly used models are the savings method, the simplified delivery service model and TRANSIT. Each of these is aimed at reducing the time and cost of delivery and the improvement of customer service levels.

Key Terms

Channel conflict	Intensity of distribution	Order processing costs
Customer service levels	Inventory carrying costs	Push and pull strategies
Direct marketing	Just-in-time	Sales agents
Direct product profitability	Marketing logistics	Total distribution concept
Economic order quantity	Materials management	Vehicle scheduling
Horizontal marketing systems	Materials requirement planning	Vertical marketing systems

Review Questions

From your knowledge of this chapter, give brief responses to each of the following questions:

1. Explain what is meant by a pull strategy.
2. Which costs decline as the number of warehouses operated by an organisation increases?
3. For what type of products is extensive distribution most likely to be used?
4. How would you respond to the charge that all middlemen are parasites?
5. In what important respect do sales agents and brokers differ from most other kinds of intermediary?
6. What is the 'Dutch method'?

7. In your own words, define the term 'vertical marketing system'.
8. Give two examples of items that could be classed as order processing costs.
9. What is meant by the term 'tied agreement'?
10. Name 5 criteria that could be used in measuring the customer service levels achieved by a particular warehouse.
11. Outline the key steps in developing a customer service policy.
12. Name 3 areas of decision making in which DPP can be applied by retailers
13. Complete the following sentence: "The key to establishing good working relations with intermediaries is..."
14. What is a Kanban system?
15. What is the essential requirement before JIT can be made to work?
16. Explain the terms 'fixed and variable routing systems'.

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Chapter 10

Marketing Communications

Marketing communications are intended to both inform and persuade a target audience, with a view to influencing the behaviour of that group. The behaviour of interest to agribusinesses can range from encouraging farmers to adopt improved husbandry practices or to grow a particular crop (or variety of crop), to encouraging industrial or consumer buyers to try a product or service. As has been said on other occasions, each element of the marketing mix must be designed so as to further the overall marketing strategy, and this includes marketing communications.

Chapter Objectives

This chapter is designed to help the reader:

- Appreciate the broad range of objectives of marketing communications.
- Recognise the elements of the promotional mix and understand their respective roles in the communication process.
- Understand the steps involved in setting marketing communication objectives.
- Develop a conceptual framework for making decisions about marketing communications programmes.
- Become familiar with the approaches most commonly used in setting budgets for marketing communications.
- Become aware of the principal methods used in evaluating the effectiveness of marketing communications.

Structure Of The Chapter

The chapter opens with a brief description of the main forms which marketing communications take. A framework for developing marketing communication strategies is presented and much of the remainder of the chapter is structured around this framework. The framework depicts the marketing communications programme as a sub-component of the overall marketing strategy. It shows the sequence of decisions to be made in designing a promotional programme along with the factors which will impinge upon those decisions and the shape of the promotional programme which will eventually emerge. The chapter also features a fairly detailed discussion of the relative roles of each element of the promotional mix in the overall communication process. This is followed by a review of the main approaches used in setting communications budgets. The chapter concludes with a brief overview of the techniques used to check the effectiveness of the market communications programme.

The nature of marketing communications

Not everyone believes that promotion is necessary. Both Marx and Lenin viewed advertising as a pernicious activity characteristic of bourgeois capitalism. Marx denounced advertising as

“parasitic” whilst Lenin thought it irrelevant to socialism where centralised planning would ensure that exactly the right amount of product would be made available to meet consumer needs. It is hardly surprising, therefore, that advertising (excluding that taking the form of propaganda) has for a long time been restricted, controlled, and sometimes banned, in many of the nations which adopted communist and socialist political systems, including a good number of developing countries. Even after market liberalisation and political reform within these countries there often remains uncertainty over the need for advertising and other forms of promotion, and a suspicion that it adds nothing but costs to the marketing process. (The same scepticism exists among some members of society in capitalist countries).

Case 10.1 China's Communist Consumers Get the Message

Not all centrally planned economies have rejected advertising. During China's Cultural Revolution (1966– 1977) commercial advertising agencies were either closed down or turned to producing government propaganda, but these re-emerged around 1979. In that year a Communist Party newspaper ran an editorial supporting advertising as, “...a means of promoting trade, earning foreign exchange, and opening the eyes of the masses”. A large number of Chinese advertising agencies began to operate in the months immediately following the appearance of this editorial.

By the mid-1980s China had 680 advertising agencies which were placing advertisements on 167 radio stations, 104 television stations and in 3,415 magazines and 1,300 newspapers. In 1986, the advertising industry generated \$228 million in revenues and employed 81,130 people. Its growth has been of staggering proportions.

In more recent years, China has implemented its own forms of market liberalisation, and as private enterprise has begun to develop so has its use of advertising. Foreign commercial enterprises can also now have access to China's huge markets and they too make extensive use of advertising within the country. However, even during the post-Cultural Revolution era, when most enterprises were state-owned, advertising was seen to have a role in support of the goals of Chinese Socialism. In particular advertising was being used to help:

- encourage the consumption of “approved” goods and to discourage the consumption of others;
- achieve state policy production goals;
- sell obsolete, sub-standard or unwanted products; and
- improve communications between the government departments responsible for production and distributors and consumers.

Thus, although at one time overt promotional activity was prohibited in China, it has since become ideologically acceptable with advertising now being used to redirect demand and so effect the economic plans of Chinese socialism¹.

In fact, without effective marketing communications the consumer remain unaware of products and services they need, who might supply them and the benefits which both product and suppliers can offer. Moreover, it is impossible to develop effective and efficient marketing systems without first establishing channels of communication. Even the best products do not sell themselves. Marketing communications serve five key objectives:

- the provision of information
- the stimulation of demand

- differentiating the product or service
- underlining the product's value,
- regulating sales.

Marketing communications takes four forms - advertising, sales promotion, personal selling and publicity. These must be formulated within a co-ordinated marketing communications plan. If there is more than one target market then there will need to be more than one communications programme. Like all other elements of the marketing mix, it must be tuned to the characteristics and needs of the target market.

Advertising: Advertising is the most visible element of the communications mix because it makes use of the mass media, i.e. newspapers, television, radio, magazines, bus hoardings and billboards. Mass consumption and geographically dispersed markets make advertising particularly appropriate for products that rely on sending the same promotional message to large audiences. Many of the objectives of advertising are only realised in the longer term and therefore it is largely a strategic marketing tool.

The objectives of advertising are broader than that of directly stimulating sales volumes. African Distillers, for example, contribute to a series of television advertisements, shown around the time of public holidays in Zimbabwe. These warn people of the dangers and irresponsibility of driving when intoxicated. This involvement serves to enhance African Distillers' image as a socially responsible and caring organisation. The objective of this kind of advertising is to create a positive attitude towards the company on the part of its publics, e.g. government, pressure groups, shareholders, suppliers, agents and the general public. Some of these publics will never consume the company's products and this kind of advertising campaign is not intended to encourage them to do so.

Sales Promotion: Sales promotion employs short-term incentives, such as free gifts, money-off coupons, product samples etc., and its effects also tend to be short-term. Therefore, sales promotion is a tactical marketing instrument. Sales promotions may be targetted either at consumers or members of the channel of distribution, or both.

Public relations: Public relations is an organisation's communications with its various publics. These publics include customers, suppliers, stockholders (shareholders, financial institutions and others with money invested in the business), employees, the government and the general public. In the past, organisations thought in terms of publicity rather than public relations. The distinction between advertising and publicity was based on whether or not payment was made to convey information via the mass media. Advertising requires payment by the sponsor of the message or information whilst publicity is information which the media decides to broadcast because it is considered newsworthy and therefore no payment is received by the media from a sponsor. It is more common these days to speak of public relations than of publicity. Public relations is much more focused in its purposes.

The objectives of public relations tend to be broader than those of other components of promotional strategy. It is concerned with the prestige and image of the organisation as a whole among groups whose attitudes and behaviour can impact upon the performance and aims of the organisation. To the extent that public relations is ever used in product promotion, it constitutes an indirect approach to promoting an organizations products and/or services.

Personal selling: This can be described as an interpersonal influence process involving an agribusiness' promotional presentation conducted on a person-to-person basis with the prospective buyer. It is used in both consumer and industrial marketing and is the dominant form of marketing communication in the case of the latter.

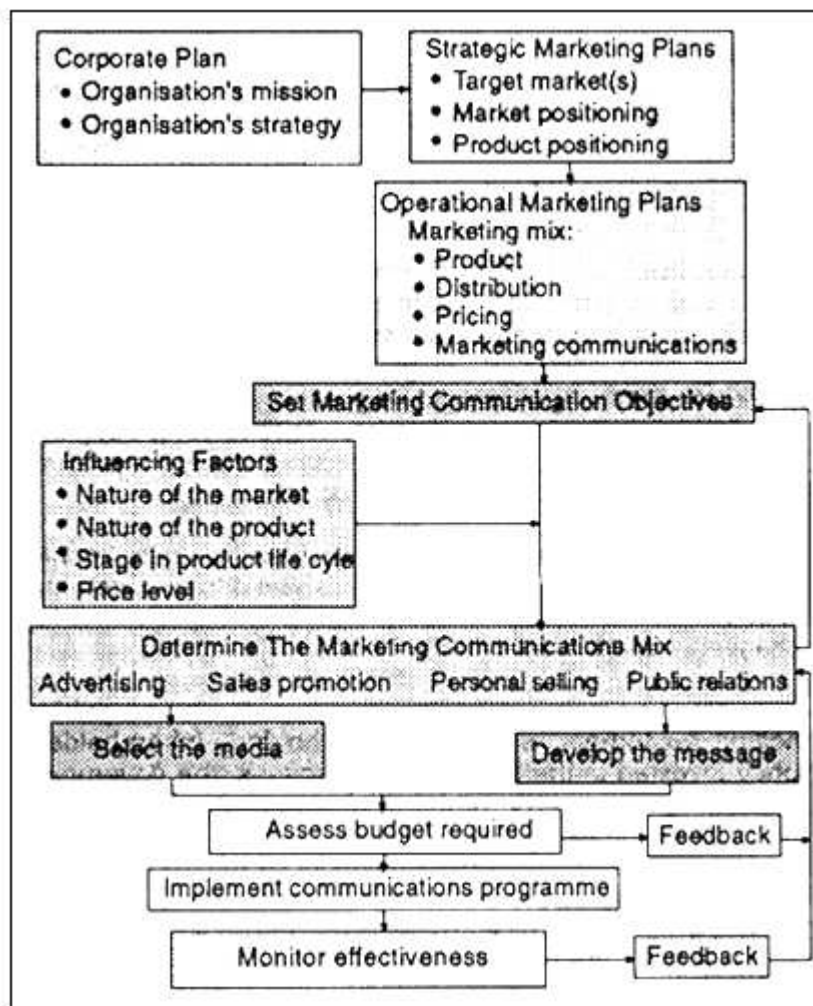
Developing an appropriate communications programme

Marketing strategy is derived from an organisation's corporate strategy. The marketing strategy then has to be translated into a strategic plan, or set of strategic plans if the organisation intends

to exploit opportunities in more than one target market. Strategic plans are very broad statements of principles which the organisation believes will lead it to achieve its marketing objectives within a chosen target market. These principles become operational when they are expressed in the form of a marketing plan consisting of a detailed blueprint for each element of the marketing mix product, distribution, pricing and marketing communications.

The framework in figure 10.1 shows the connection between marketing communications and the marketing strategy. It also highlights the main stages involved in developing a marketing communications programme. The remainder of this chapter is devoted to explaining these stages.

Figure 10.1 Developing a marketing communications programme



Once the overall marketing strategy has been determined and the marketing plan has been outlined, it is necessary to develop a set of operational communication objectives. It is only when this is done that an appropriate marketing communications mix can be designed. There are, however, a number of intervening factors to be considered before the communications mix is finalised. These include the nature of both the product and the market, the stage at which the product lies in its life cycle and the relative value of the product in terms of its price to potential purchasers. Having decided upon the communications mix, the promotional message can be determined and the medium or media best suited to delivering this message can be chosen. At this point, the budgetary implications of the decisions made so far have to be considered. If the cost of the communications programme exceeds the resources available to the organisation, then there may have to be an adjustment in the communications mix. In some instances, the organisation may conclude that it can adjust the communications mix to reduce the cost to an affordable level but that the revised communications package is unlikely to achieve the original objectives. Faced with this situation, the organisation may resort to revising its marketing communications objectives. Once the budget has been set the programme can be implemented. The effectiveness of the programme has to be measured against its objectives and, if necessary,

adjustments or wholesale revisions of the programme will be made.

Setting marketing communication objectives

The question arises as to how operational communication objectives can be developed, given that these cannot be usefully defined in terms of sales volumes. A three step approach is proposed and this takes into account the longer term outcomes of marketing communications. The three steps are:

1. Identify the target segment
2. Determine the behavioural change to be brought about
3. Decide what needs to be done to bring about the change in behaviour.

Identifying the target segment: The identification of the target audience is obtained from the marketing strategy and marketing plan. There may, however, need to be a refinement of the target group for a particular promotional campaign. Returning to our earlier example of the problem of persuading farmers in the arid areas of Botswana to grow sorghum, it may be that the target group is defined as, "Those farmers operating small holdings of 5 hectares or less, in arid areas, who grew sorghum as a food crop in the past but stopped doing so completely to take up the growing of cash crops". There is a direct relationship between the degree of precision with which the target group is defined and the clarity with which communication objectives can be stated. Moreover, if the target group is defined with precision this greatly assists in deciding upon both the content of the promotional message and the medium chosen to carry it.

Intended behavioural changes: There should be a clear understanding of what behavioural changes the communications programme is intended to bring about. Is it: To increase usage among existing customers? To convert non-users to users? To establish new uses for an existing products? To reduce the amount of brand switching and encourage more users to be brand loyal? To enable customers to make better, more effective, more efficient or less wasteful use of the product and thereby increase its value to them? It is possible to measure the extent to which changes in behaviour have occurred, but marketing communication objectives can only become operational when the intended behavioural changes are stated with precision and without ambiguity.

Deciding what needs to be done: The third step in developing operation objectives for marketing communications, is to specify the required course of action. To increase the number of uses of a product might only require an awareness campaign, to improve the way in which a product is used (e.g. farmer's application of plant growth chemicals) would probably involve an educational campaign, to create a liking of the product a programme aimed at attitudinal change would be necessary, and the conversion of non-users of the product to users is likely to focus upon creating a conviction about its benefits and attributes.

Factors influencing the communications mix

There are at least 5 major influences on what makes a given mix of promotional techniques appropriate. These are: the nature of the market, the nature of the product, the stage in the product life cycle, price and the funds available for promotional activities.

Nature of the market: An organisation's target audience greatly influences the form of communication to be used. Where a market is comprised of relatively few buyers, in reasonable proximity to one another, then personal selling may prove efficient as well as effective. Conversely, large and dispersed markets are perhaps unsuitable for personal selling because the costs per contact will be high. The customer type also has an impact. A target market made up of industrial purchasers, wholesalers or retailers is more likely to be served by organisations which employ personal selling than is a market of consumers.

Another important consideration is the state of the prospective customer's knowledge and preferences with respect to the product or service. In some cases, the task will be to make

potential customers aware of a product which is entirely new to them, whilst in others, the aim will be to attract them away from a competing product. The two tasks are quite different in nature and may require the use of differing forms of communication. (See also the topic of the hierarchy of effects which is explored a little later in this chapter).

Nature of the product: Highly standardised products, with minimal servicing requirements, are less likely to depend upon personal selling than are custom designed products that are technically complex and/or require frequent servicing. Standardised, high sales volume products, especially consumer products, will probably rely more on advertising through the mass media. Where the product is targetted at a narrow market segment or where those who can use the product effectively are few in number then personal selling will prove the more cost effective method of communications. For instance, in areas such as Pakistan and Sri Lanka, field sizes are too small for four wheeled tractors to work effectively. However, there may be a relatively small number of farmers who have larger fields and who can use such a tractor both effectively and efficiently. In these circumstances, a more direct approach to the target group of farmers would be advisable.

Stage in the product life cycle: The promotional mix must be matched to a product's stage in the product life cycle. During the introductory stage, heavy emphasis is placed upon personal selling to convey the attributes and benefits of the product. Intermediaries are personally contacted to engender awareness, interest and, if possible, commitment to the product. Trade shows and demonstrations are also frequently used to inform and educate prospective dealers/retailers and, sometimes, consumers. Advertising at this stage is chiefly informative, and sales promotion techniques, such as product samples and money-off coupons, are designed to achieve the goals of getting potential customers to try the product.

As a product graduates into the growth and maturity stages, advertising places greater emphasis upon persuasion, with the ultimate objective of encouraging the target market to become purchasers of the product. Personal selling efforts continue to be directed at marketing intermediaries in an attempt to expand distribution. As more competitors enter the market, advertising begins to stress product differences to establish brand loyalty. Reminder advertisements begin to appear in the maturity and early decline stages.

Thus, we see that as a product progresses through the product life cycle, both the marketing objectives, and the promotional mix used to achieve them, may well change.

Price: The fourth factor impinging upon the promotional mix is that of price. Advertising and/or sales promotion are the dominant promotional tools for low unit value products due to the high per contact costs in personal selling. Higher value products can justify, and usually require, personal selling.

Promotional budget: A real barrier to implementing any promotional strategy is the size of the promotional budget. Mass media advertising tends to be expensive although the message can reach large numbers of people and hence the cost per contact is relatively low. For many new or smaller firms the costs are prohibitive and they are forced to seek less efficient but cheaper methods. Ideally, a promotional strategy should first be developed and then costed rather than designing a promotional strategy around a preset budget.

The table below summarises the main influences upon the selection of the elements of the communications mix.

Table 10.1 Choosing between personal selling and mass media

	Personal Selling	Mass Media
Market		
Number of buyers	Few	Many
Geographic	Concentrated	Dispersed
Type of market	Industrial	Consumer

Product		
Product complexity	Custom	Standardised
Service level required	High	Low
Life cycle stage		
	Introductory to early growth	Maturity to early stage of decline
Pricing		
Budget	High unit value	Low value

The marketing communications mix

The next set of decisions is to determine the role of each element of the promotional mix. Depending upon the situation, it is likely that more emphasis will be given to certain forms of promotion than to others. Table 10.2 provides a brief overview of the main advantages and disadvantages of each element of the promotional mix.

Table 10.2 The main promotional methods

Form of Promotion	Advantages	Disadvantages
Personal selling	Permits flexible presentation and gains immediate response.	Costs more than all other forms per contact. Difficult to attract good sales personnel.
Sales promotion	Gains attention and has instant effect.	Easy for others to imitate
Advertising	Appropriate for reaching mass audiences. Allows direct appeal and control over the message.	Considerable waste. Hard to demonstrate product. Hard to close sale. Difficult to measure results.
Public relations	Has a high degree of believability when done well.	Not as easily controlled as other forms. Difficult to demonstrate or measure results.

Advertising

Advertising is characterised as a form of communication which its sponsor pays to have transmitted via mass media such as television, radio, cinema screens, newspapers, magazines and direct mail. It is intended to both inform and persuade. Lancaster and Massingham² describe advertising as being:

“...concerned with the identification and presentation of desirable and believable benefits to the target audience in the most cost effective way.”

Table 10.3 Some of the aims of marketing communications

Consumer Communications	Trade Communications	Corporate Communications ^a
Correct misconceptions about a product/service	Inform about promotional programmes	To establish, maintain or improve the corporate image

Increase frequency of use	Announce special trade offers	To inform its publics as to its values, policies and purposes
To remind of products or brands	To avoid stockpiling	To communicate its business performance
To present special offers	To build loyalty	To explain mergers and acquisitions to its publics
To educate on product usage	To educate on product usage	To explain fundamental changes in the organisation's mission

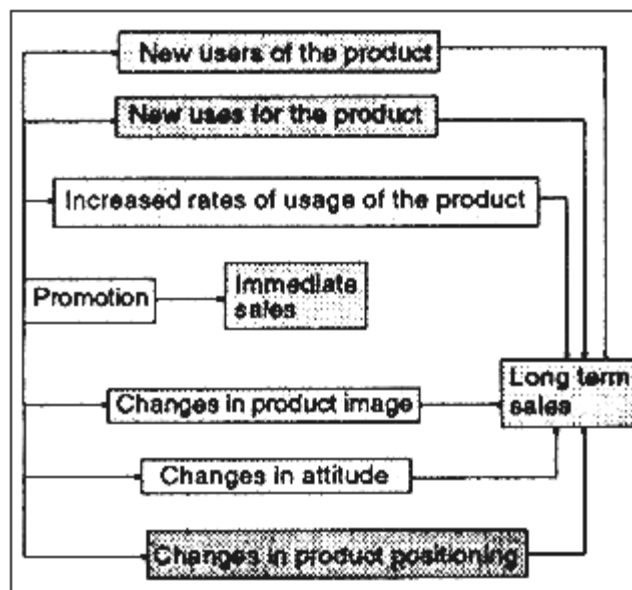
a In some respects the aims of corporate communications would seem more a responsibility of public relations rather than advertising. However, reference here is made to the use of medium for which the organisation has paid. Public relations does not pay to make use of the mass media.

Harper³ believes that the same volume of advertising can have a greater effect in a developing country than it would have in a developed country because of the relatively low amount of advertising in LDCs and the low levels of competition between advertisers for the attention of audiences.

The aims of advertising are many. Table 10.3 lists some of the aims which advertising may be directed towards achieving.

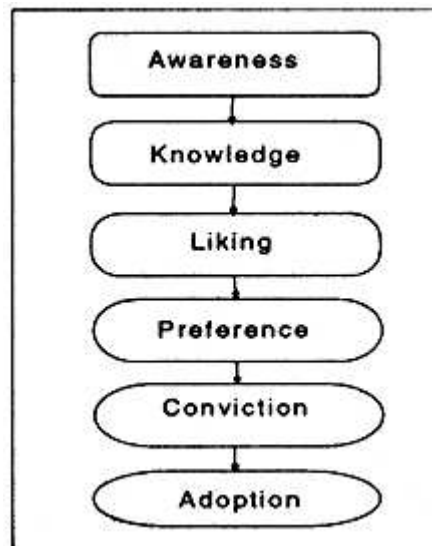
Theory suggests that there is a lag between advertising activity and its effect on sales. Changes to consumer attitudes take time, as does creating customer awareness or creating an understanding of a product or product attributes. Thus, whilst advertising can undoubtedly have an immediate impact, the total effects of advertising are only realised in the longer term. Figure 10.2 reveals some of the longer term outcomes of advertising.

Figure 10.2 Longer term outcomes of promotion



Since the effects of advertising are only evident in the longer term it should be treated as a strategic rather than tactical tool of the marketing communications mix. Advertising does not have the immediate impact of creating a customer. Instead, it has a hierarchy of effects as depicted in figure 10.3. Lavidge and Steiner's⁴ hierarchy of effects model describes communication as a process rather than a simple outcome in the form of a sale.

Figure 10.3 The hierarchy of effects model²



Awareness: Consider the task facing a government which is attempting to persuade farmers in a frequently drought-stricken area to switch some of their production from maize to more drought-resistant sorghum. The initial step is for advertising to create an awareness of both the economic and technical benefits of sorghum which would accrue to farmers within drought-stricken areas. There may also be an awareness task to be accomplished with respect to new sorghum varieties whose higher yields help compensate for the superior economic rewards of growing maize in a good season. Levels of awareness can be measured and thereby used as a measure of the effectiveness of advertising. For example, prior to beginning a planned advertising campaign a target such as the following might be set:

‘Within 3 months of the campaign running, we expect at least 30 percent of farmers in region X to be aware of the new sorghum variety and to be able to recall the 3 main technical benefits that are claimed for the variety in the campaign.’

Subsequent research among the region's farmers would permit management to determine whether the advertising had accomplished this target or not.

Knowledge: The next step is to instill, in farmers, a given level of knowledge about, for instance, how to choose economically viable sorghum varieties and the best husbandry practices to maximise yields; and economic results, the technical and commercial benefits of the new variety and how these are achieved. It is unlikely that advertising alone can communicate this type of information. The technical nature of the information would suggest that farmers would wish to put questions to sales personnel and/or extension agents in order to obtain further explanation.

Whatever combination of marketing communications is used, quantitative targets can again be set and the performance of the programme can be evaluated against them. It is particularly important that post-campaign research establishes the level of understanding among the target group. It should never be assumed that just because a message is received it is also understood.

Once an awareness and understanding has been built up among the target audience the marketer can then focus on establishing a liking or positive attitude towards the crop. This might be done, for instance, by promoting the virtues of the new variety, e.g. drought-resistant, high-yielding and palatable.

Case 10.2 Promoting Herbicide And Insecticide Usage In Nigeria

The Ilorin Agricultural Development Project (IADP), in Western Nigeria, operated some 52 farm service centres and was concerned about the low level of agrochemical usage by farmers within the project area. A survey carried out by the IADP suggested the need for a marketing communications

programme. In the case of insecticides and herbicides, there was a need to create higher levels of awareness. The task, with respect to fertilizers, was rather different. Awareness levels were fairly high but usage rates were low. The survey revealed many serious misconceptions about the use of fertilizers and so there was a need for an educational programme that would improve farmers' knowledge of fertilizers.

Farmers' awareness levels of insecticides and herbicides was 10 and 5 percent respectively. Usage rates were 4 percent for insecticides and 1 percent for herbicides. The survey further revealed that those who were aware of these agrochemicals tended to be the larger farmers. Even then the extent of their awareness was fairly limited with awareness of insecticide being limited to seed dressing.

In the case of fertilizer, the survey concluded that the awareness level was far higher, at 65 percent of farmers in the project area. However, the lack of understanding of fertilizers became apparent during personal interviews when many farmers expressed some strange fears and beliefs about the effects of their application on yams. It was widely held among these farmers that yams grown using fertilizer were unpalatable, unsuitable for pounding, could not be used in yam setts and had poor storage characteristics.

This case reinforces the point that advertising rarely results in an immediate sale. The farmers within the IADP area are unlikely to be converted to the use of these agrochemicals by a single advertising campaign, no matter how cleverly designed it may be. It is more likely that any conversions from non-users to users will take place over a considerable period of time. Considerable efforts will have to be made to improve both awareness and knowledge of agrochemicals, among these farmers, before any attempt is made to induce them to try the product.⁵

Preference: Even though the campaign may create a positive predisposition towards the product or service, the product may not be preferred to the alternatives. In the case of the hypothetical new sorghum variety, the target audience may like what it hears about the variety but this may not yet be preferred to existing varieties or to planting maize. Preference can be created by promoting the *comparative* advantages of the new product or service over its alternatives. In Botswana⁶, the government was successful in promoting the production of sorghum by using the extension service to stress the versatility of the crop in use and, therefore, marketing opportunities. Sorghum can be made into soft porridge (motogo) or stiff porridge (papa or bogobe). It can also be used to produce three fermented products: traditional beer, "mageu", a non-alcoholic drink, and "ting", a fermented porridge. Whilst the versatility of the crop might create a preference for planting sorghum over maize in arid areas, additional benefits would have to exist in order to create a preference for this variety over other types of sorghum. Perhaps the new variety yields a particularly sour taste much favoured among drinkers of traditional beer in Botswana and/or is impregnated with queleatox to protect it from the main pest attacking sorghum, the quelea bird. To create preference the promotional message must convey benefits which alternatives do not possess.

Conviction: It is possible that whilst the target audience has developed a preference for a product or service their conviction about that product or service is not yet strong enough to actually cause them to adopt it. Here, the role of communication is to convince the target audience that the claimed benefits of the product or service are both real and sufficiently great to warrant a change in their behaviour. For example, prospective growers of the new sorghum variety will want to see the benefits for themselves through field trials and demonstration plots, and will perhaps want to converse with farmers who have already grown the new variety. This

hypothetical example indicates that the medium of communication (e.g. printed media or demonstrations) and sources of information (e.g. extension personnel or other farmers) may change from stage to stage.

Adoption: The final step is for the target audience to adopt the crop, husbandry practice, product or service. The original hierarchy of effects model had purchase as its final step but here the term adoption is preferred because it emphasises that the ultimate objective of promotion is to encourage a long term change in behaviour and not a one-off trial or purchase. To facilitate the initial purchase or trial of the product or service the promotional campaign might centre around a low introductory price or enable potential customers to try it on a limited basis. Prospective growers of the new sorghum variety could be offered seed at a discounted price or the seed might be specially packed in small sample sachets so that it could be sown on a trial plot of land. Target rates of adoption, over a specified time, should be set. However, as will be explained a little later in this chapter, direct comparisons between the number of adopters and promotional activity would not be meaningful since there are many other intervening variable. If targets are not being met, then what can be done is to reassess promotional efforts. In particular, research needs to be carried out to determine answers to the following questions:

- Is the unique selling proposition (USP) understood and valued? (e.g. growers may not understand how queleatox works and will therefore have difficulty accepting its benefits or may believe that other pests such as grasshoppers and locusts are more of a threat to the crop).
- Was the right communication medium used? (e.g. newspapers, magazines and leaflets may have been used where word-of-mouth communication through sales personnel or extension agents might be more effective in communicating the complexities of sorghum growing and/or marketing. In many instances the mass media is effective in creating awareness, interest and communicating information but personal communication is required to effect trial and adoption).
- Did the message reach the intended audience? (e.g. it might be established that the majority of prospective sorghum growers listen to a given radio station but the message is not transmitted at peak listening times for this group).
- Was the source of information acceptable? (e.g. farmers may suspect that the government is motivated by a desire to curtail over-production of maize rather than to reduce the risks of small-holders farming in arid areas whereas the same message might be more readily accepted if the source were an independent research station).

Put another way, the key questions are:

Message - Is the right message being communicated?

Media - Is the right medium or media being employed?

Target - Is the target being reached by the communication?

Source - Is the source of the information credible with the target audience?

There is a great deal of empirical evidence to support the notion that there are distinct stages in the communication process and also that the effects of this process occur over time. Studies by Beal and Rogers⁷ into the adoption of herbicides and new livestock feed formulations by farmers showed not only the distinct steps in the communication process described here as the hierarchy-of-effects, but also that lapses of several years between awareness and adoption can occur^b. Similar evidence has been provided by Singh and Pareek⁸ from their studies of farmers in India.

In summary, what needs to be recognised is that it is unlikely that all of the steps in the communication process can be accomplished by a single advertisement or advertising campaign. The first two steps, for instance, 'creating awareness' and 'developing knowledge', differ in that

the first merely requires that the audience be *informed* by reaching them whilst the second demands that they be *educated*. The two tasks are quite different and are, invariably, achieved in different ways. Similarly, the subsequent tasks of creating, a positive predisposition, preference (or loyalty) and adoption of the idea, product or service are different in nature and are most likely to differ in method. Rogers⁹ suggests that:

“Mass media channels are relatively more important at the knowledge stage and interpersonal channels are relatively more important at the persuasion stage...”.

It should also be recognised that since promotion has a number of intermediary goals its performance cannot be measured simply in terms of sales volumes.

Given that many of the outcomes of advertising are realised only in the longer term, there is little value in attempting to set advertising objectives in terms of immediate sales because there is little prospect of being able to directly associate a given rise (or fall) in sales with a particular promotional campaign or component of a particular campaign. This being the case, promotional objectives based on sales effects do not meet Aaker and Myers' requirement that advertising objectives be operational because they do not provide decision makers with useful criteria on which to base future decisions.

Transforming non-buyers into buyers is seldom achieved in a single direct step. Instead, advertising seeks to take prospective customer through a series of distinct steps as depicted in figure 10.2. Whereas it is not possible to measure the impact of promotional activities in terms of sales effects, targets can be set for each of the intermediate goals which comprise the hierarchy of effects model depicted below. Research can be conducted subsequently to determine the extent to which these goals have been achieved.

Aaker and Myers¹⁰ say that:

“Advertising objectives, like organisational objectives, should be operational. They should be effective criteria for decision making and should provide standards with which results can be compared. Furthermore, they should be effective communication tools, providing a line between strategic and tactical decisions.”^c

It might be thought that the primary objective set for advertising would relate either to immediate sales or to market share targets, but in practice such objectives are seldom, if ever, operational. The reasons are threefold:

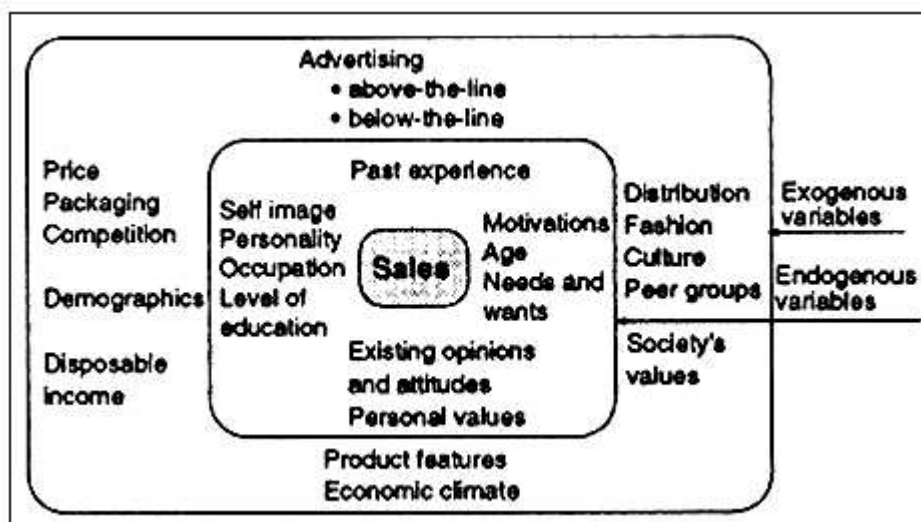
- Advertising is only one of many factors influencing sales
- The effects of advertising are often long term and
- The effects of advertising are usually indirect.

Figure 10.4 shows some of the many factors which affect sales levels and make it difficult to isolate the effects of advertising. There is a dichotomy of factors, these being the endogenous factors operating from within the individual, such as his/her attitudes, opinions etc., and those external or exogenous to the individual, including the elements of the marketing mix, the general economic climate and cultural influences.

b An extensive review of this empirical evidence may be found in E.M. Rogers, *Diffusion of Innovations*, The Free Press, 3rd edition, 1983.

c An extensive review of this empirical evidence may be found in E.M. Rogers, *Diffusion of Innovations*, The Free Press 3rd edition, 1983.

Figure 10.4 Some of the factors influencing sales



Sales promotion

In contrast to advertising, sales promotion is more tactical than strategic. It is usually applied to create an immediate impact, but one which is unlikely to be sustained in the longer term. Thus, marketers tend to use promotion to address short term problems such as reducing the cash burden of overstocked products, stimulating demand during what is traditionally the low season, selling off stocks which are becoming obsolete or are likely to spoil if they remain in storage. Sales promotions may be targetted at consumers, industrial buyers (e.g. crop processors or food manufacturers), channel intermediaries (e.g. traders, wholesalers or retailers) or the organisation's own sales force.

Table 10.4 Types of consumer sales promotion

Sales Promotions Targetted On Customers	
Type of promotion	Examples
Discount coupons or money-off packs	Discounts on the full price encourage product trial, e.g. \$5 off the regular price that will apply to a new pesticide.
Premiums	Products offered free or at a discount act as an incentive to buy a related product, e.g. farmers buying 25 litres or more of a new pesticide get a 5 litre pack of herbicide free.
Lotteries, games or competitions	Intended to create interest and excitement among customers, e.g. farmers may be offered the opportunity to win a knapsack or tractor mounted agrochemical sprayer.
Samples	Free samples encourage product trial, e.g. farmers could be given a small pack of pesticide and invited to apply it to a small plot and compare results either with a plot to which no pesticide has been applied or against a competing brand.
Point-of-sale merchandising	These specially designed display units and literature are intended to create impulse (i.e. unplanned) purchases. They are located close to the place where the customer pays for the goods or service, e.g. the packs of pesticide could be arranged on an attractive rack displaying the manufacturer's name and situated, close to the checkout in a farmers service centre.
Trading stamps	Customers are given stamps in ratio to the value of their purchases. Each stamp has a value attached to it although it cannot be redeemed for cash. These stamps can be accumulated and then traded in as whole or partial payment for goods and services. Trading stamps are mainly used by distributive outlets to encourage customer loyalty.

Table 10.4 gives examples of typical forms which sales promotion takes. Many of these forms are equally applicable in consumer and industrial markets.

Sales promotions may be targetted on intermediaries as well, or instead of, consumers. Many types of promotion are used in both sectors. Sometimes, however, their objectives are slightly different. Table 10.5 describes the main forms of trade promotions and their various purposes.

Table 10.5 Types of trade sales promotions

Sales Promotions Targetted On Trade Channels	
Type of promotion	Examples
Trade allowances	These temporary price reductions are intended to be passed on, in whole or in part, to the end customer. Thus, intermediaries can elect to have a higher margin per unit or higher volume sales.
Bonus purchases	An agricultural merchant may be offered 24 packs of pesticide for the price of 20. Such bonuses are not intended to be passed on to customers but are an incentive for the merchant to increase the order size.
Competitions	These are directed at the sales and/or service personnel of intermediaries and if sponsored by a manufacturer/grower are intended as an incentive to place particular emphasis on selling that supplier's products or services., e.g. a salesman achieving total orders in excess of 1,000 litres of pesticide might win a cash prize.
Cash incentives	Cash bonuses paid to a middleman's sales personnel can help push the product through the channel of distribution.
Cooperative advertising/promotions	Suppliers and middlemen sometimes share the cost of an advertising campaign or promotion, e.g. An agricultural merchant wishing to run a local campaign may obtain assistance from one or other of his/her main suppliers.
Trade shows and exhibitions	An industry's trade association may organise fairs and exhibitions which offer its members the opportunity to communicate with a well defined target audience. Both manufacturers and intermediaries may participate in these events.

Public relations

Publicity and public relations are not one and the same thing. Organisations often seek publicity, i.e. to disseminate newsworthy items of information about itself, its products/services or about its personnel through the media but does not pay to do so as in the case of advertising. Instead, the organisation hopes that the item is sufficiently newsworthy to appear in an editorial feature, in a newspaper or magazine, or that a radio and/or television station will want to interview an official of the organisation about the item.

Publicity can be a highly effective communication tool, since 'news' is often perceived by the target group to have greater authenticity and credibility than 'advertising'. Moreover, it can penetrate the defences of individuals who intentionally ignore advertising and the overtures of sales personnel. The main disadvantage of publicity is that the organisation has relatively little control over it.

By contrast, the organisation can exert a large degree of control over the results of public relations so long as there are specific objectives in regard to each of the publics at which the communications are to be directed. Public relations may be defined as:

“...the deliberate, planned and sustained effort to establish and maintain mutual understanding between an organisation and its public.”¹¹

The 'public' referred to in this definition is any group having an actual or potential interest in, or impact upon, an organisation's prospects of achieving its goals. Such publics would be:

The community: An organisation needs to be accepted by the local community. To this end, a community relations programme should be established. Such a programme should devise ways for the organisation to become involved in community activities. A public relations programme can give an organisation a 'personality' and, hopefully, one which the local community likes.

Consumers: Public relations should be used to nurture a positive image of the organisation and its products and services, a belief in its intrinsic fairness in dealings with customers and the perception that the organisation values loyal customers.

Other channel members: Wherever the organisation is placed within the marketing channel (as a grower, processor, wholesaler, retailer etc.) it should take cognisance of the need to develop and maintain positive relations with its partners within the marketing system. The public relations programme should make them feel like partners, e.g. by making them privy to privileged information about the organisation's products, promotional programmes, marketing plans, future developments and/or policies.

Opinion leaders: Pressure groups and trade associations are examples of groups which can influence both public and government opinion and therefore should be a target for the organisation's public relations activities. Where there is potential conflict between the interests of these groups and those of the organisation it is vital that there remains a dialogue between them so that factual information, rather than rumours, is communicated. In many cases, an effective public relations programme can help avoid conflicts from arising. It can do so by projecting a corporate image of a caring, responsible and responsive organisation. For its part, the organisation must seek to understand the position taken by pressure groups on particular issues.

Case 10.3 Sowing The Seeds Of Success By Communicating With The Market

"Up until a few years ago, the Seed Co-op was production driven", admitted the Marketing Manager of The Seed Company of Zimbabwe Limited. He was referring to a situation where the member growers decided how much of each crop they wanted to grow and then asked the Seed Co-op to sell what they were willing to produce. The Marketing Manager went on to say that the situation had changed and members had become, "...very much market-led." He meant that members had come to understand the need to produce according to customer needs. The Seed Co-op made itself aware of customer needs through marketing communications.

Zimbabwe's Seed Co-op formerly enjoyed a monopoly and did not see the need to advertise. This changed with the introduction of market reforms that opened the seed supply business to competition. The Seed Co-op set its communication objectives as:

- To make groups, in addition to farmers, understand the role which the Seed Co-op played in the country's agriculture. These groups were to include: government, financial institutions and manufacturers.
- To create awareness that the Seed Co-op sold more than maize seed,
- To communicate the importance of certified seed, and
- To make potential customers aware of newly introduced seed varieties.

The seed Co-op's campaign was extensive, and costly. It covered:

- Rural radio advertising,

- Rural bus panels,
- Posters with calendars; these showed the various agro-regions of the country and their recommended crops,
- Press advertising in both commercial and peasant farmer publications;
- Rural cinema;
- Sponsorship of televised weather reports, and
- Television advertising.

A post-evaluation of the impact of the advertising campaign was undertaken and the Seed Co-op pronounced itself satisfied by the high level of recall of its promotional theme, "War Against Hunger".

The Seed Co-op employed both sales and extension personnel but the two were seen to have distinct roles. In the words of Mr. de Woronin, "A different personality and approach is needed for selling, as opposed to extension work, which we at Seed Co-op have learnt the hard way. Extension people cannot necessarily sell, and vice versa."

Public relations also figured strongly in the Seed Co-op of Zimbabwe's marketing communications programme. The organisation became very active in both national and provincial trade fairs and in local field days, in a bid to establish sound working relations with farmers.¹²

Government: The lobbying of politicians is a sensitive issue but in most countries around the world it is accepted as a reality. Public relations programmes should be designed to create a two-way flow of communications between industry and government (or between a trade association, such as a farmers' union, and government). That is, the organisation should be creating a positive predisposition towards it whilst it should be receiving advance information, from government, on matters such as proposed legislative changes that could impact upon its activities.

Financial institutions: Bankers, finance brokers, investment analysts and other lending institutions are an important public for all commercial organisations. They need to have confidence in the financial stability and prospects for growth since directly or indirectly they will affect the organisation's access to debt capital. Public relations programmes targetted at this group are therefore very important.

Media: Sound press relations can give an organisation access to the 'news' channel of communication through which it can disseminate positive information to all of its publics. Through its public relations programme, the press should be given a ready response to all reasonable requests for information within the limits of commercial confidentiality, that the organisation is candid about its intentions and actions.

Employees: Organisations must recognise the need to 'market' themselves to their own employees as much as to other publics. Internal public relations often suffers from neglect. The loyalty and commitment of employees to the organisation and its goals cannot be taken for granted. An internal public relations programme can also help build an understanding between the organisation and its personnel as well as helping develop an enduring trust between them.

The methods employed by public relations professionals include:

- Open days
- Sponsorship
- In-house publications
- Community projects
- Press releases
- Video films
- Training courses,

- Annual reports.

Public relations has perhaps a different but complementary role to that of other forms of communication. It will be most effective, and controllable, when it has specific objectives, with respect to specific publics, and when it is coordinated with the forms of marketing communication.

Personal selling

Personal selling complements both advertising and sales promotion. Many organisations have a sales force comprised of a number of representatives who have face-to-face contact with the customer. The division of responsibilities between sales representatives may be based on geographical areas or on product groups. For instance, an agrochemical company could divide the market into geographic regions and assign a representative to each district. He or she would have responsibility for selling all of the company's products to the assigned area. Alternatively, the same agrochemical company could organise its sales force so that representatives handle either animal health products or crop protection products. This would make sense if, within a country, farming tended to be specialised into arable and livestock, whereas it would perhaps be less appropriate if mixed farming were the norm and two representatives, from the same firm, were calling on the same farmer.

Reid¹³ defines personal selling as:

“...the process of analysing potential customers' needs and wants and assisting them in discovering how such needs and wants can best be satisfied by the purchase of a specific product, service or idea.”

Given the importance of personal selling within the marketing mix and the fact that the sales force is likely to be the most expensive element of the company's promotional mix, the organisation must be clear on the objectives of its sales representatives. Sales representatives have at least 7 key tasks:

Prospecting	Sales representatives find and develop business with new customers.
Communicating	Sales representatives communicate information about the organisation's philosophy, produce/products and/or services and communicate needs, preferences and problems which customers have and the organisation can meet or resolve.
Selling	Sales representatives should be trained in the art of selling approaching, presenting, countering objections, closing sales and nurturing a long-term customer relationship.
Servicing	Sales representatives provide various services to customers, such as helping resolve their problems with his/her own organisation, rendering technical assistance, arranging financing and expediting delivery.
Information gathering	Sales representatives carry out market research and intelligence work and complete visit reports. Representatives are able to collect information on competitor activity as well as the future needs of customers.
Complementing advertising	The activities of sales representatives should complement other elements of the promotional mix. The sales approach has to be consistent with the selling propositions conveyed through advertising and sales promotion. Where possible, customer visits should be timed to coordinate with the other promotional mix components.
Allocating	Sales representatives are able to evaluate the value of various customers to the organisation and advise on the allocation of scarce produce/products at times of shortage.

Thus, we observe that whilst selling is of fundamental importance, the sales representative has a number of other vital objectives, but at core he/she is part the organisation's promotional effort and is an important contributor to marketing communications.

Case 10.4 Knowledge Of The Market For Onions In The Yemen

In the Yemen Arab Republic onions were supplied from a region of the country where yields were low, quality poor and supply seasonal. Farmers in Al Bayda, in the southeast of Yemen, discovered that they enjoyed certain advantages in onion production. Ideal agronomic conditions resulted in very high yields, they could produce year-round and the quality was good. Many farmers in Al Bayda took up onion growing and began to transport them over considerable distances to urban markets.

Whilst Al Bayda farmers had a comparative advantage in onion production they had yet to determine how they could fully exploit this advantage in the market. Since all growers belonged to the same tribe, their chief was able, as an opinion leader and encouraged by a change agency, to convince the growers to cooperate in production, transport and marketing. Coordinated production ensured a continuous flow of produce to market, eight-ton trucks rather than one-ton trucks went to market and transport costs per unit fell to 40 percent of their previous level. Produce was sold direct rather than through wholesalers and growers' returns improved by 40 percent.

The Al Bayda farmers also registered themselves as a cooperative in the neighbouring People's Democratic Republic of Yemen. Whenever they learned by radio that prices were higher there, they were able to redirect supplies to that market.

A key factor in this success story was the extent to which Al Bayda farmers kept themselves informed of market conditions through an extensive information network. This included using radio, the telephone and messengers to ensure that supplies were directed to where prices and demand said they were most needed.¹⁴

In practice, companies will be more specific about how they expect their sales representatives to spend their time. For example, sales personnel may be told what proportion of their time to devote to existing products and customers and how much to spend on prospecting for new business or developing markets for new products. Left to decide for themselves, sales people are likely to devote much of their time to existing customers where they know what kind of reception awaits them and to products they are familiar with and which have an established market (especially where sales commission is paid). The sales manager who permits this pattern to emerge is clearly unaware of the concept of product life cycles and the dangers of relying entirely upon today's customers and today's products.

One would expect to observe a difference in the objectives set for the sales force in a market oriented versus a selling/production oriented organisation. In the case of the latter, the accent is wholly upon sales volume and the sales force has no role to play in marketing strategy or issues relating to profitability. A contrasting view should be in evidence where selling is perceived by management to be the central activity within the promotional element of the marketing mix. The market oriented company trains its sales force to produce customer satisfaction and company profit. This involves developing the analytical marketing skills of sales personnel.

Training the sales force

Organisations which send their newly hired sales representatives immediately into the field are almost invariably disappointed by the results. It is true that training programmes can be expensive. Trainers have to be hired, materials purchased and, perhaps, facilities have to be rented. Moreover, the organisations are paying people who are not yet selling. There are also opportunity costs. Experienced sales representatives have to be withdrawn from the field for

on-going training, and sales opportunities may be foregone. However, training, and re-training, is necessary if the sales force is to be effective. The sales manager's task is to ensure that training costs are outweighed by the value added to the company's business by having a better equipped sales force.

Not all sales personnel sell: many could better be described as order takers. This is not necessarily a problem as long as this is the purpose for which the "sales force" was intended. Many consumer food products are presold through extensive advertising in the mass media. In these circumstances, the sales person's role is largely confined to taking orders from middlemen who are already motivated to stock the product because of the demand created (or maintained) by the mass media. However, it becomes a problem when an organisation requires its sales force to take a more proactive role and aggressively sell its products and services. Despite stories to the contrary, there are very few 'born salesmen'. The great majority of sales personnel need to be trained to become active sellers as opposed to being passive order takers.

Sales force training programmes have several goals, including:

Sales representatives need to understand and identify with the company.	The first part of most sales training programmes is devoted to describing the company's history and objectives, the organisation and lines of authority, the chief officers, the company's financial structure and facilities, and the chief products and sales volume, as well as the current and prospective customer base.
Sales representatives need product knowledge.	Sales trainees are shown how the products are produced and how they function in various uses and in different environments.
Sales representatives need to understand customers' needs, buying motives, and buying habits.	They need to learn about the organisation's and competitors' strategies and policies.
Sales representatives need to know how to make effective sales presentations.	Sales representatives require training in the principles of salesmanship. In addition, the company outlines the major sales arguments for each product, and some provide a sales script.
Sales representatives need to understand field procedures and responsibilities.	Sales representatives learn how to divide their time between existing and prospective customers; how to prepare reports, organise their schedules and select efficient routes.
Sales representatives need to understand their role in marketing intelligence gathering.	Some individuals are quicker than others to realise that they have a role in market intelligence gathering. Indeed, representatives repeatedly fail to report information collected in the course of their work because they do not appreciate that it constitutes marketing intelligence. Hence, the need for training in this area.

Training programmes have to be evaluated against the performance (and/or improved performance) of the sales force. Quantitative evidence might include increased sales turnover and sales volumes, larger average order sizes, increases in new accounts, a decline in customer complaints and returns, lower levels of absenteeism, etc.

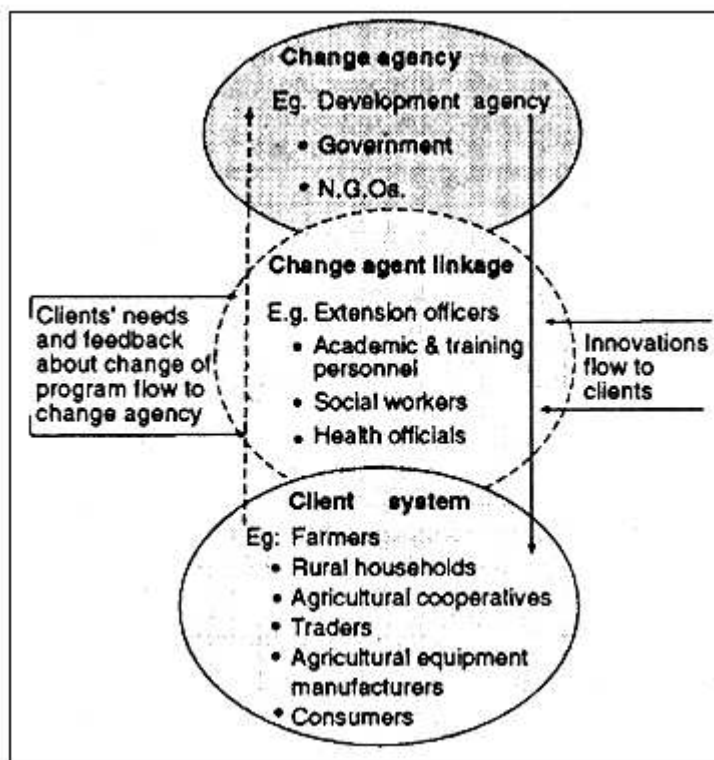
Change agents

Sales representatives are agents of change. They seek to change customer behaviour in many different ways: from mechanical weeding to herbicides, from bulk transportation of vegetables to prepacking, from broadcasting of seed to the use of precision drills, from employing manual labour to electro-mechanical grain elevators, from open to refrigerated lorries, from purchasing 10 kg bags of maize meal to buying 25 kg sacks, and so on. However, sales representatives are not the only agents of change seeking to communicate with producers, processors, traders, retailers, consumers, and other participants in agricultural and food marketing systems, in an attempt to alter their beliefs, opinions and behaviour in some way. Agricultural extension agents, agricultural marketing extension agents, health workers, farmers' unions, cooperatives, trade associations,

professional bodies, consumer associations and NGOs of various types are some of the other change agents whose activities are often found to impinge upon the agricultural and food marketing systems. For example, where change agents are successful in persuading farmers to adopt improved husbandry practices or technological innovations which lead to higher levels of production and/or crop quality, this is likely to have an impact in the marketplace. Similarly, if change agents persuaded Southern African consumers to eat yellow maize (often considered food for livestock) in the place of the traditionally preferred white maize, then this would have an impact on the relative prices of the two grains and upon future levels of plantings and supply of white and yellow maize.

The figure overleaf depicts the role of change agents in the context of agricultural and food marketing systems. It shows the role of change agents, whether they be commercial sales representatives or other types of change agent, is that of linkage between the promoters of change and those who are expected to adopt and implement those changes. Figure 10.5 also gives examples of the types of clients whose beliefs, attitudes, opinions and behaviour change agents might seek to alter.

Figure 10.5 Change agents and their role in the context of agricultural and food marketing systems



As figure 10.5 suggests, the change agent forms the link between the change agency and the target client group(s). He/she is a conduit through which information flows, in both directions, between the change agency and the client group. The change agent interprets and transmits the message of change from the change agency to the clients. The change agent is equally responsible for interpreting and transmitting information on the needs and problems of the clients to the change agency, also their reactions to proposed changes, obstacles, difficulties, and the identity of important opinion leaders within the client system.

Case 10.5 Communicating The Benefits Of Hybrid Maize

Hybrid maize seed was first developed and introduced in Iowa State, USA. Promotion of the seed began in 1928 and involved the state extension service and sales representatives from seed companies. Hybrid maize seed yielded about 20 percent more per hectare than the open-pollinated varieties that

it replaced. It had higher drought resistance and lent itself to harvesting by mechanical pickers. The chief disadvantage of the new seed was that it lost its vigour after the first generation and therefore farmers had to buy hybrid seed each year whereas they previously used a large amount of farm-saved seed. Thus, adopting the hybrid seed involved the farmer in making a fundamental behavioural change.

Researchers studying the adoption of the hybrid seed discovered that despite its clear advantages, most farmers moved only slowly from awareness-knowledge through to adoption. Farmers questioned in the study took up to 9 years after learning about the new seed before adopting it. The average respondent took 3–4 years between planting a small trial plot of hybrid maize seed and eventually using it exclusively.

The researchers found that the various communication channels played different roles at each stage of the adoption process. Farmers reported that, in most instance, information on the hybrid seed first came to them via sales representatives. However, neighbouring farmers played a more significant role in persuading them to plant a trial plot of the hybrid seed.¹⁵

The objectives of change agents have a particular sequence, this is also represented in Figure 10.6, and may be explained as follows:

- | | |
|---|---|
| 1. Develops the need for change. | A change agent's initial objective is often to help clients see the need for change. For example, an extension officer might have to demonstrate how the lack of coordination between farmers in their production and lack of cooperation in the marketing of their produce prevents them from gaining access to distant markets and obtaining reasonable prices. |
| 2. Establish a rapport with the client group. | Before they will accept his/her advice, the client group needs to feel that the change agent has empathy with their situation. A frequent obstacle to rapport is where the change agent comes from a different culture, does not speak the language (or dialect), comes from a different socio-economic class or intimidates the client group through ostentatious show of a superior education. |
| 3. Diagnoses of the client groups' problems. | Returning to the earlier example, the change agent will have determined, through diagnoses, why the existing marketing system is not working and what the alternative solutions might be. |
| 4. Encourages an intention to change among the client group | Having explored various alternative course of action, the change agent must motivate the clients to adopt one or other solution. This might involve sending trial shipments of produce to market, for example, to demonstrate that graded produce, carefully packed, earns higher returns for farmers. |
| 5. Translates intent into action. | The change agent induces client-centred change. He/she will work through local leaders and opinion leaders so that the proposed change is adopted by the clients rather than always being seen as a solution imposed by the change agency. He/she may, for instance, encourage opinion leaders to call for farmers meetings to discuss how local production might be coordinated and which marketing functions should be based on cooperative activity. |

6. Firmly roots adoption and minimises the likelihood of its abandonment.	Change agents will seek to reinforce the new behaviour by continual feedback on improvements and benefits. This might take the form of reports on reductions in produce losses due to improved handling and packaging, higher prices than pre-change prices, increases in sales volumes, etc.
7. Makes the change self-perpetuating.	Eventually, the change agent should make him/herself redundant. The client group should become self-reliant rather than continuing to rely upon the change agent. This might be evidenced, for example, if farmers not only continued to coordinate their existing production and cooperate in the marketing of their produce but also began to look for better methods and new areas of cooperation in production and marketing.

Whilst sales representatives and other types of change agent are similar in many ways, they are not the same. Sales representatives are essentially profit oriented, as they must be, and this governs their selection of priorities and their behaviour. Other types of change agent are usually, if not always, motivated by social goals. Even when their efforts are directed at improving the economic performance of a client group, this is normally a means to an end and not the end itself. That 'end' is usually the economic and social development of the client group.

Developing the message

In most instances, the attention of the target audience can only be held for a relatively short time. That is, the potential customer will spend only a matter of seconds, or at most minutes, reading an advertisement in the printed media, will spare a limited time conversing with sales personnel or extension agents and will quickly lose interest in broadcast messages when these are perceived to be too long. Thus marketers must be selective in the points of information they seek to communicate. Whilst a product or service could have a large set of selling points, these will have to be narrowed down to a select few. Moreover, the single most important selling point will be the one to be included in the principal slogan or headline. This is sometimes termed the unique selling proposition (USP). A USP should only be decided upon after customer research has determined meaningful and important messages (e.g. there is little to be gained from promoting the nutritional superiority of hammer milled whole grain over roller milled refined grain when consumers believe the latter is superior in taste, colour and texture).

Selecting the media

The media plan has to be developed in concert with the overall marketing communications strategy. The hierarchy of effects model, described earlier in this chapter, stressed the multiple stages through which the target customer must be brought and that different media might be more successful at some stages than others. Therefore, it is likely that a mix of media will have to be used within a single marketing communications programme.

Criteria for selecting communications media include:

- level of exposure
- level of impact
- nature of the target audience
- cost and cost effectiveness.

Message exposure: Marketers are interested in the potential number of message exposures that a given medium offers. The total level of exposure is a function of **reach** and **frequency**. Reach is the number of people exposed to the message. For example, to the extent that a higher percentage of rural populations, in developing countries, have access to radio as opposed to television, radio will have the greater reach for this target audience. Frequency is the average number of times an individual is exposed to the message. If the target audience were say

farmers, who tend to read a newspaper 2 – 3 times per week but listen to the farming news, on radio, 7 days per week, then radio is likely to achieve the higher frequency rating.

Invariably, there is a trade-off between reach and frequency. Communications budgets will stretch only so far and so more spent on one will reduce the amount that can be spent on the other.

Impact of the promotional message: It can be argued that the impact of a promotion has more to do with the message than the medium. Nonetheless, the medium is an influencing factor on the levels of awareness, comprehension, believability and retention. Radio, being a purely audio medium, will be limited in its impact on farmers' levels of understanding of the operation of a piece of agricultural equipment that is new to them. Visual communication would be important in this case. In the same way, the retention of information is generally higher for audio-visual communications than it is when the information is presented only in audio form.

The target audience: Media have to be selected according to their ability to reach the target audience. This involves analysing the demographic structure of the market socio-economic groups, age groups, language, ethnic groups, etc. Thereafter, marketers can seek to identify media that reach the target group(s).

Cost and cost effectiveness: Some forms of media may prove too expensive for a particular communications budget and although these may have great potential in reaching the target audience, they will be unavailable. Even when this is not the case, it is incumbent upon the marketer to identify the most cost effective media.

The cost-per-thousand method (CPM) is one of the most commonly used in measuring the cost effectiveness of promotional media. For example, if it costs \$100,000 to send a mobile cinema around the rural areas for 6 months, to demonstrate the advantages of applying herbicide, and if it is estimated that some 50,000 farmers will see the cine/video film, then the cost per thousand is:

$$\frac{\text{Cost} \times 1,000}{\text{Exposure to target group}} = \frac{\$100,000 \times 1,000}{50,000} = \$200$$

The same calculation can be undertaken for alternative media which are also under consideration. However, when making comparisons of this kind, care has to be taken to allow for the precision of a medium in hitting the target, something which the CPM approach does not do. For instance, in some African countries fish trading has traditionally been carried out by people of Asian origin. If these were the target group for a given promotion then an Asian language newspaper might give pinpoint accuracy in reaching them but would score badly on a CPM rating since they are a minority of the population.

Establishing the promotional budget

Deciding upon the amount to be spent on promotion is one of the most challenging tasks marketing managers have to face. There are simply no scientific solutions to the problem. Since no one has ever established a mathematical relationship between promotional expenditures and their effects, either in terms of sales volumes or revenues, there is no universally accepted formula for setting the promotional budget. Instead, a number of pragmatic approaches have been established over the years. The main budget setting methods are percentage-of-sales, fixed-sum-per-unit, competitive parity, residual-sum and objective-and-task.

Percentage-of-sales: The method involves setting the budget as a percentage of either last year's sales or forecasted sales for next year. Thus, brands or products which are performing well get additional promotional support. The popularity of this approach is probably due to its simplicity. However, it suffers from several weaknesses, for example high sales volumes do not necessarily reflect high profitability, there is little support for marketing managers wanting to turn 'problem' products into 'rising stars' and when budgets are set according to forecasted sales there is motivation to inflate sales estimates. Another problem with this approach is that using

percentages of sales leads to sales determining the promotional mix. In figure 10.1, it was suggested that the reverse was the correct relationship, i.e. the promotional mix should determine sales.

Fixed-sum-per-unit: Some organisations elect to set a specified amount for each unit sold or produced. Thus, for example, a poultry producers might determine the promotional budget by using a figure of \$1.50 per gross of eggs sold and 25 cents per broiler sold (or produced).

Competitive parity: This approach is simply one of keeping pace with immediate competitors. The organisation will try to work out approximate expenditure levels by two or three close competitors and will then seek to match those expenditures. It represents a reactive or defensive approach to promotional budget setting. Apart from the difficulties of arriving at reasonably accurate estimates of expenditure by the competition, the method suffers from incorporating the mistakes of competitors who may be spending too much or too little. Alternatively, the amount spent by the competition might be right for them but not for others who have different resource levels and marketing opportunities or problems. The method also discourages organisations from taking a more aggressive marketing stance by seeking to gain a competitive advantage.

Residual-sum: This is a euphemistic term for allotting what the organisation perceives itself to be able to afford after all other budgets have been set. The danger is that in years of good business there may be over-budgeting whilst in times of low sales, when demand most needs to be stimulated, the amount available for promotion falls.

Objective-and-task: An organisation employing the objective-task approach will first specify its communication objectives and will then estimate how much it will cost to achieve those objectives. This is the approach to promotional budget setting recommended in this text. It has the benefit of encouraging marketing managers to set specific communication goals. When these are not attained the communications mix can be reevaluated and modified.

It may be that whilst the communication objectives are valid, the particular organisation cannot supply the resources to meet them. In these circumstances some sort of compromise between expenditure and goals will be necessary.

Perhaps the fundamental weakness of this budgeting method is the implied assumption of cause-and-effect. That is, there is an assumption of a direct relationship between promotion and marketing performance but as has already been said, other elements of the marketing mix will impact upon sales, as will many uncontrollable exogenous factors.

Whichever approach to setting the promotional budget is chosen it should be recognised that it has been established on a less than optimal basis.

Monitoring the effectiveness of marketing communications

The last step in the development of a marketing communications programme is to evaluate the effectiveness of the programme. The evaluation has two components: communications effects and market performance.

Communications effects: Research into communications effects involves the evaluation of a single advertisement. Research in this area focuses upon measuring variables such as attention levels, message comprehension, message retention and intention to purchase. This type of research is often termed copy research. Both broadcast and printed promotional material can be evaluated. Whilst the techniques employed differ in their detail they essential involve exposing a sample of people drawn from the intended target group and exposing them to the proposed advertisements or promotions. For example, a printed advertisement can be inserted in a dummy magazine and given to the sample. After a suitable period of time these people are asked to recall the advertisements seen and to report as much of the detail of the content of the ads selling propositions, images, applications, etc. In the same way, an audience can be recruited to watch television programmes with trial advertisements inserted at the beginning of the programme(s) and/or in the commercial intervals and/or at the end of the programmes. They too can be questioned about the content of the advertisements and the impressions that they made

upon the audience.

Market Performance: To a limited extent and in certain situations, the effects of promotion on sales can be measured. The effects of special offers and coupons can be measured by redemption rates. Two approaches which are widely pursued in industrialised countries are as follows:

Field experiments.	The organisation selects two geographical areas which are similar in terms of socio-economic groups, levels of disposable income etc. and launches a promotional campaign in one area but not the other. After a period of time, sales in the two areas are compared. The assumption is that the only difference between the two areas is the absence or presence of the promotional campaign and so differences in sales are explained by the promotional campaign.
Analysis of historical market data.	Promotional expenditures and sales data can be compared using mathematical or econometric models to first describe the relationship between sales and promotion. Where these can be successfully described there is the prospect of developing other models capable of predicting sales, given a certain level of promotional effort.

The first of these approaches requires the application of very strict controls and careful matching of the areas or markets to be compared. The second approach requires good quality data. That is, the data must be detailed, precise, free from error and must extend over a considerable period of time.

Summary

The establishment of effective communication channels between sellers and buyers is a prerequisite of success in agricultural marketing. Marketing communications serve to both inform and persuade. More specifically, through the promotional mix advertising, sales promotion, personal selling and public relations organisations can provide information to other market participants, stimulate demand, differentiate products and services, underline a product's value and regulate sales.

Marketing communication objectives are derived from the marketing plan and must be consistent with the other elements of the marketing mix. These objectives must be operational and require identification of a target market, a specification of any desired changes in that target group's behaviour and a set of performance targets.

The communications mix to be employed will be greatly influenced by the nature of the market and the product, the stage of the product's life cycle, the product's price level and the size of the promotional budget available.

Advertising is a strategic marketing tool. Its effects tend to occur over a relatively long time horizon and there is usually a lag between an advertising campaign and evidence that its desired effects are actually taking place. Advertising rarely, if ever, immediately creates a customer. The buying/adoption process is normally fairly lengthy and involves several stages known as the hierarchy-of-effects. Advertising plays a greater role at some of these stages than at others and so it is usually used in conjunction with other promotional tools such as sales promotion and/or personal selling.

In contrast to advertising, sales promotion is a tactical marketing tool and is typically employed as a quick acting solution to immediate marketing problems. Sales promotions can be targetted on end-users or upon any other group of market participants.

Personal selling involves face-to-face contact between a representative of the trading organisation and the customer. The more expensive and technically complex the product, and the fewer the number of buyers, the more likely it is that emphasis will be given to personal selling.

Public relations are broader in purpose than other elements of the communications mix. Rarely are public relations efforts directed at selling products or services. Rather, the role of public relations is to establish and maintain good relations between an organisation and its various publics.

When developing promotional messages, marketers have to select selling propositions which are unique to the product or service and are meaningful to the target audience. Given that the attention of the target audience can only be held for relatively short time spans, marketers have to be highly selective and limit the amount of information which they attempt to transmit.

The selection of the media to be used should take into account the amount of exposure that a particular medium will give to a message, the potential of the medium to reach the target audience and the relative cost effectiveness of alternative media.

There are agents of change other than sales personnel whose activities can impinge upon the marketing system. Examples include agricultural and marketing extension officers, aid workers and training personnel. These change agents are often representing non-commercial organisations such as government departments, NGOs or development agencies. The success or failure of these change agents can have a significant impact on the effectiveness and/or efficiency of particular market participants and upon the marketing system as a whole. Change agents seek to demonstrate the need for change to a target group and having encouraged that change then try to ensure the change becomes permanent and self-perpetuating.

There are no theoretical models to assist marketing managers in setting optimal promotional budgets and there is no universally accepted formula for setting the promotional budget. There are, however, five widely used approaches, these being: percentage-of-sales, fixed-sum-per-unit, competitive parity, residual-sum and objective-and-task.

The final step in the development of a marketing communication programme is to evaluate its communications effects and impact on market performance. Trial promotions can be tested by exposure to a sample audience and measurements taken of attention levels, message comprehension, message retention and intention to purchase. The impact of promotions on market performance can be measured either through field experiment or through mathematical modelling.

Key Terms

Advertising	Exogenous factors	Personal selling
Change agents	Hierarchy of effects	Public relations
Communications mix	Mass media	Sales promotion
Endogenous factors	Objective-and-task method	Unique selling proposition

Review Questions

From your knowledge of the material presented in chapter 10, give brief answers to the following questions.

1. Briefly list "the intervening factors to be considered before the communications mix is finalised."
2. What are the steps that are suggested be followed when seeking to develop operational communication objectives?
3. Name the 6 stages of the hierarchy of effects model.
4. According to Rogers, at what stage(s) of the communications process are interpersonal sources likely to be most effective?
5. Briefly explain the term, endogenous variables.

6. Who are an organisation's publics?
7. What is the main weakness of the objective-and-task approach to setting marketing communication budgets?
8. What are the implications for marketing communications of a marketing programme involving more than one target market?
9. What criteria might be used to judge the appropriateness of a particular promotional medium in a given situation?
10. What are 'change agents' and what purposes do they serve?
11. What sort of evidence might be used in assessing the effectiveness of a sales training programme?
12. List at least 5 methods used in public relations.
13. What are the 5 key objectives of marketing communications?
14. Name the two methods of evaluating the impact of marketing communications on market performance described in this text.

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Chapter 11

Marketing Research

In essence, management is about decision making. Decision making is invariably surrounded by uncertainties and, therefore, risks. Marketing research is charged with helping to reduce the level of uncertainty with which marketing managers must cope. Marketing research is a form changing activity in that it takes facts and figures and other types of raw data and converts this to information, in which form it is useful to decision makers. The presentation of marketing research in this chapter is less from the perspective of practitioners in this field and more from the stance of one who has to draw on the expertise from these specialists and/or perhaps manage them. Thus, the chapter is not about how to carry out a marketing research exercise rather it deals with the information that can be obtained from these fields of expertise, how to commission studies and how to manage these functions.

The reader will observe that the term used here is that of 'marketing research' rather than 'market research'. This is in recognition of the fact that a great deal of the research effort is typically devoted to identifying marketing problems (e.g. improved distribution systems, packaging development, studies of business trends, long range forecasts of demographics etc.) whereas the narrower term, 'market research' is indicative only of research into markets.

Chapter Objectives

The specific objectives of this chapter are to assist the reader gain an understanding of:

- The role of both marketing research in marketing management decision making
- The content of the briefing that those who commission marketing research must give to the individuals charged with carrying out marketing research
- What those who commission marketing research must ensure is included in the proposals submitted by internal or external suppliers of marketing research
- The structure of a good research report.

Structure Of The Chapter

The introduction to the chapter seeks to establish the nature and purpose of marketing research in the context of management decision making. This is followed by an outline of the principal contents of the brief given to those chosen to undertake a given marketing research exercise. The main body of the chapter deals extensively with the essential components of the research proposal that is drafted in response to the research brief. The chapter concludes with a brief overview of the structure of marketing research reports.

Marketing research

The term marketing research can be defined as follows¹:

"Marketing research is the systematic and objective search for, and analysis of,

information relevant to the identification and solution of any problem in the field of marketing.”

Green & Tull (1978)

The key words in this definition are; systematic, objective and analysis.

Systematic: Marketing research seeks to set about its task in a systematic and objective fashion. This means that a detailed and carefully design research plan is developed in which each stage of the research is specified. Such a research plan is only considered adequate if specifies; the research problem in concise and precise terms, the information necessary to address the problem, the methods to be employed in gathering the information and the analytical techniques to be used to interpret it.

Objectivity: Maintaining objectivity in marketing research is essential if marketing management is to have sufficient confidence in its results to be prepared to take risky decisions based upon those results. To this end, as far as possible, marketing researchers employ the scientific method. The characteristics of the scientific method are that it translates personal prejudices, notions and opinions into explicit propositions (or hypothesis). These are tested empirically. At the same time, alternative explanations of the event or phenomena in which we are interested are given equal consideration.

There is a tendency for marketing managers to be prejudice in favour of a proposed project, such as entry into a new market or the development of a new product, once it has been decided that his/her organisation should formally investigate its potential. This is especially the case where the manager has at some point supported, or even originated the project. He/she may even specify the research problem in a way that biases the results towards a positive answer, e.g. “Your job is to find out how big the market might be for this product”. In reality, the task is to determine whether or not, there is a market for product X. The marketing researcher has to resist the pressures to simply confirm the prejudices of the person who has commissioned the study.

Analytical: The third of the key terms in the definition given a little earlier was analytical. The marketing researcher's task goes beyond the collecting of data. He/she must also interpret it in terms of what the data means to the organisation which commissioned the research. Knowing that sixty percent of those interviewed thought that product A was superior to product B is, in its self, of little value. The organisation needs to know the alternative ways it can respond to this data. Data is equivalent to the raw materials of manufacturing it has to be converted to information before it becomes useful in decision making. The process of converting data into information is achieved through analysis.

Whilst there is a need for accuracy, precision and thoroughness in marketing research it is to be remembered that, in practice, there is a perpetual conflict between the demands of expediency and the search for truth. The reality is that management is frequently under pressure to make timely decisions. Therefore management often seeks answers through marketing research in the shortest time possible and moreover, at minimum cost. On such occasions its methods tend to be less theoretically rigorous and its analysis more superficial.

The market research brief

Marketing research can be concerned with any of a variety of aspects of the market; the product, sales, buyer behaviour, promotion, distribution, pricing, packaging etc. Since the researcher cannot investigate everything about a market, he/she must be selective. The question remains as to how the researcher decides where to focus the study; and to what depth each issue should be investigated. The answers should lie in a document called the research brief. The research brief is a set of guidelines given to the researcher by the person(s) who have commissioned the research and/or the individual(s) who are to make use of the results in their decision making. The brief must inform the researcher which aspects of the market are particularly important. In particular, the research brief should include:

- The purpose of the research

- The objectives stated in a clear, concise, attainable, measurable and quantifiable way
- A time horizon
- A resource allocation, including the budget and facilities
- A reporting period.

Each of these components of a research brief is expanded upon below.

The purpose of the research

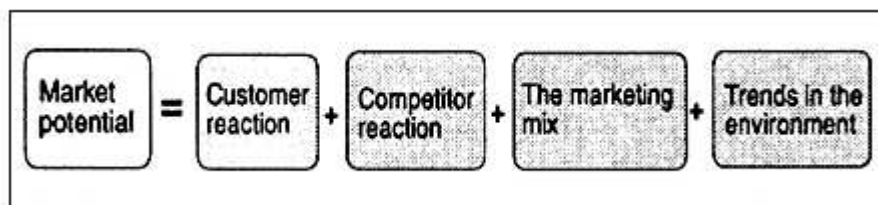
It is not at all unusual for marketing managers to neglect to tell the researcher the precise purpose of the research. They often do not appreciate the need to do so. Instead, they simply state what they think they need to know. This is not quite the same thing. To appreciate the difference consider the following case.

A marketing research agency was contacted by the International Coffee Organisation (ICO) and asked to carry out a survey of young people in the age group 15–24 years of age. They wanted information on the coffee drinking habits of these young people; how much coffee, they drank, at what times of day, with meals or between meals, instant or ground coffee, which other beverages they preferred and so on. In response, the research organisation developed a set of wide ranging proposals which included taking a large random sample of young people.

In fact, much of the information was interesting rather than important. Important information is that which directly assists in making decisions and the ICO had not told the research company the purpose of the research. The initial reason for the study had been a suspicion, on the part of the ICO, that an increasing percentage of young people were consuming beverages other than coffee -particularly soft drinks- and simply never developed the coffee drinking habit. Had this been explained to the research company then it is likely that their proposals would have been radically different. To begin with, the sample would have been composed of 15–24 year old non-coffee drinkers rather than a random sample of all 15–24 year olds. Second, the focus would have been non-coffee drinking habits rather than coffee drinking habits. Unless the purpose of the research is stated in unambiguous terms it is difficult for the marketing researcher to translate the decision-maker's problem into a research problem and study design.

Suppose that the marketing manager states that he/she needs to know the potential market for a new product his organisation have been developing. At first glance this might appear to meet all of the requirements of being clear, concise, attainable, measurable and quantifiable. In practice, it would possible meet only one of these criteria, i.e. it is concise. The problem with the objective; *that the needs to know the potential market for the new product*, is that it is not attainable. One could find out how many tree lifters were currently being sold but this is not the same as the objective set by the marketing manager. As figure 11.1 suggests the market potential for any new brand is a function of at least 4 things: customer reaction, competitor reaction, the marketing mix and trends in the environment.

Figure 11.1 Factors influencing demand for a new product



Consider the case of the small West African engineering company that wanted to diversify its product line and had purchased the designs for a cassava grater. Once grated the cassava would be mulched, allowed to ferment for some days and then by progressively drying the mulch at carefully controlled declining temperatures would produce gari, a foodstuff which when reconstituted with hot water resulted in a glutinous porridge. The cassava grater could be

constructed in wood or manufactured in sheet steel. The wooden model was designed to be hand driven while the steel model could be powered by means of 1.5 horsepower petrol engine. The company wisely decided to conduct a market study before launching the product but posed the research question as : *'What is the market potential for the new cassava grater?'*

It was possible to test consumer reaction to the concept of the new cassava grater by showing them pictures, line drawings and by supplying product specifications to prospective buyers. However, since the company had not decided their pricing policy an important element could not be tested. In large measure, it was also possible to gauge the likely reaction from competitors. The researchers began by looking at the basis of competition was it on price, product quality or unique product features? The researchers were able to look at precedents. They examined the pattern of response on past occasions when one or other of those companies already in the market had launched a new product. An audit of the environment was undertaken too but the missing component was the companies' own plans for exploiting the market, i.e. its marketing mix. Since the company had no involvement in the agricultural engineering sector prior to acquiring the rights to the cassava grater they had no agreements with distributors, no idea of which, if any, of the distributors would be prepared to stock their product, they had no salesmen trained in selling into this industry and so on. The product's potential depended very much on such initiatives.

The solution would have been to have undertaken a study which would have described the market in detail in terms of customers, competitors and the environment. The company could then have put a marketing plan together and then conducted a follow up study to test their propositions out on the marketplace.

Case 11.1 The Lake Turkana Fish Cannery

The Kenyan Government was interested in encouraging the nomadic people in the North West of the country to establish settlements. This would allow their children to receive proper schooling and health and social services could be better provided to the tribe. However, if they did settle, the Turkana would need a means by which to earn a living in place of the subsistence achieved through migratory goat herding. With the assistance of international development agencies, the Kenyan Government provided equipment that would enable the tribe to commercially fish Lake Turkana. In addition a cannery was built on the shores of the lake to process and pack the fish and so increase the wealth flowing into the region. It was implicitly assumed that fish taken from the lake would be sold to the conveniently sited cannery. What actually happened was that a large percentage of the catch was never offered to the cannery. Such was the gap between the supply and demand for fish in the country that traders were willing to travel from places as distant as Nairobi -a tough six hour journey- to secure fish supplies.

A substantial amount of research was undertaken in the course of designing this development project but none of the parties involved gave explicit consideration to the notion that increasing fish supplies would impact upon the Kenyan fish marketing system as a whole. Rather, the implicit assumption was that the project would have a localised effect.

The need to set a time horizon for marketing research

Inevitably there are deadlines which the marketing research activity must fit and these must be stated clearly at the outset of the research. As was said earlier, due to time pressures management is often seeking quick answers from marketing research. If the researcher is aware of the time constraints then this will become an overriding factor when he/she plans the research

design. He or she is likely to put forward a design which is less elegant, and gives rise to less precise information but delivers the results on schedule.

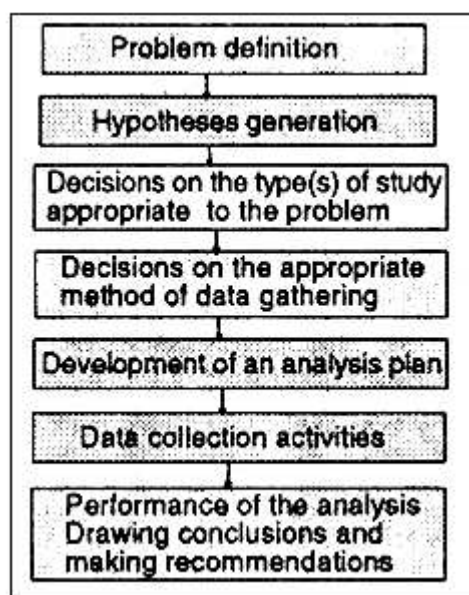
Resource allocation, including the budget and facilities

There are essentially two approaches to establishing the resource allocation to a particular marketing research exercise. Researchers can start with the problem and work out how much it will cost to solve it. This figure, along with the research design, can then be put to the person commissioning the work. Alternatively, manager can decide how much can be afforded and seek the best answer obtainable for the time, money and manpower allocated. In practice the decision-makers prefer the latter approach and the researchers the former. In the end, some kind of compromise develops. The researcher rarely gets all of what he/she judges is required to reach a satisfactory conclusion but if the research proposal is well thought out and persuasively presented some concessions can be obtained. Whichever the approach to resource allocation adopted, it is imperative that the researcher is aware of the financial, and other constraints within which he/she must complete the work and also the study the points in time when interim reports are required, if any, and the deadline for the final report.

The research proposal

Having received the research brief, the researcher responds with a research proposal. This is a document which is developed after careful consideration has been given to the contents of the research brief. The research proposal sets out the research design and the procedures proposed be followed. The eight steps are set out in figure 11.2.

Figure 11.2 The research design



Step 1, Review the research problem:

The point has already been made that the decision-maker should clearly communicate the purpose of the research to the marketing researcher but it is often the case that the objectives are not fully explained to the individual carrying out the study. Decision-makers seldom work out their objectives fully or, if they have, they are not willing to fully disclose them. In theory, responsibility for ensuring that the research proceeds along clearly defined lines rests with the decision-maker. In many instances the researcher has to take the initiative.

In situations, in which the researcher senses that the decision-maker is either unwilling or unable to fully articulate the objectives then he/she will have to pursue an indirect line of questioning. One approach is to take the problem statement supplied by the decision-maker and to break this down into key components and/or terms and to explore these with the decision-maker. For example, we could ask what he has in mind when he uses the term 'market potential'. This is a

legitimate question since the researcher is charged with the responsibility to develop a research design which will provide the right kind of information. Another approach is to focus the discussions on the decisions which would be made given alternative findings which the study might come up with. This process frequently proves of great value to the decision-maker in that it helps him/her think through the objectives and perhaps select the most important of the objectives.

Whilst seeking to clarify the objectives of the research it is usually worthwhile having discussions with other levels of management who have some understanding of the marketing problem and/or the surrounding issues.

Other helpful procedures include brainstorming, reviews of research on related problems and researching secondary sources of information as well as studying competitive products.

Step 2: Hypotheses generation:

Whilst it is true that the purpose of research is to address some question nonetheless one does not test research questions directly. We may, for example, be interested in answering the question; 'Does a person's level of education have any bearing upon whether or not he/she adopts new products?' Or, does a person's age bear any relation to brand loyalty behaviour?'. Research questions are too broad to be directly testable. Instead, we reduce the question to one or more hypotheses implied by these questions.

A hypothesis is a conjectural statement of the relation between two or more variables. There are two key characteristics which all hypotheses must have; they must be statements of the relationship between variables and they must carry clear implications for testing the stated relations². These characteristics imply that it is relationships, rather than variables, being tested. The hypotheses specify how the variables are related and that these must be measurable. Statements lacking any or all of these characteristics are not research hypotheses. Consider the following hypothesis:

"Red meat consumption increases as real disposable incomes increase."

There is a stated relation between one variable, "red meat consumption", and another variable, "disposable incomes." Moreover, both variables are potentially measurable. The criteria are satisfied however for the purposes of statistical testing it is more usual to find hypotheses stated in the so-called *null* form. The following is an example of a null hypothesis:

'There is no relationship between red meat consumption and the level of disposable incomes.'

Consider a second hypothesis:

'There is no relationship between a farmer's educational level and his degree of innovativeness with respect to new farming technologies.'

Again there is a clear statement of the relationship being investigated but there are question marks over the measurability with respect to at least one of the variable i.e. '*...a farmer's degree of innovativeness*'. Researchers may also encounter difficulties in agreeing an appropriate measure of the other variable, i.e. "*level of education*". If these problems can be resolved then it may qualify as a hypotheses.

Hypotheses are central to progress in research. They direct the researcher's efforts by forcing him/her to concentrate on gathering the data which will enable the hypotheses to be tested. It is all too easy when conducting research to collect "interesting data" as opposed to "important data". A second advantage of stating hypotheses is that implicit notions or explanations for events become explicit and this often leads to modifications of these explanations, even before data is collected.

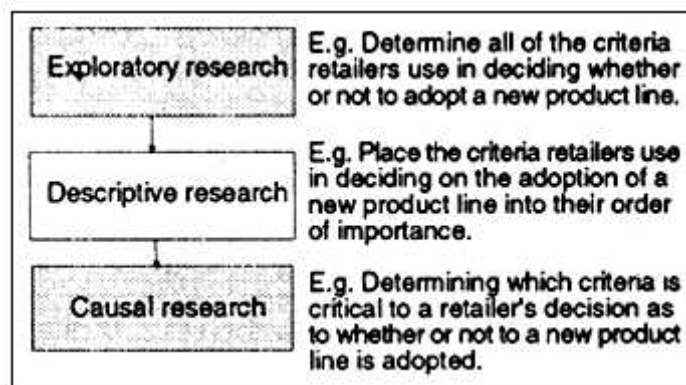
On occasion a give hypotheses may be too broad to be tested. However, if it is a "good"

hypothesis then other testable hypotheses may be deduced from it. A problem really cannot be solved unless it is reduced to hypotheses form, because a problem is a question, usually of a broad nature, and is not directly testable.

Step 3, Select the type(s) of study:

Marketing research can be carried out on one of three levels; exploratory, descriptive or causal. The researcher needs to advise the person who is commissioning the study on which is the type of research most appropriate to the problem at hand.

Figure 11.3 Three types of research



Exploratory research

Exploratory research has the objective of giving a better understanding of the research problem. This includes helping to identify the variables which should be measured within the study. When we have little understanding of the topic we find it impossible to formulate hypotheses without some exploratory research. The techniques of exploratory research include reviews of secondary sources of data, informal interviews and focus group interviews.

To illustrate the point, consider the following case. Crop residues such as straw are high in lignin, a wood like substance, and low in nutrients. This makes it a poor animal feed since the lignin acts against digestibility and the low nutrient content means poor food value. However, if treated in a strong alkali, with the action of internal heat, the lignin breaks down and the nutrient content increases. A company was established to exploit this technology and did so successfully for 4 seasons. After this period sales began to slow down. Three other manufacturers had entered the market by this time. The company, Animal Feed Systems, did not know whether the whole industry had slowed down or if only their product was suffering. Nor did they know if the problem was temporary in that perhaps the market comprised of 'early adopters' had been saturated but it was only a matter of time before other farmers began to buy their systems when they saw how well they worked. It was also possible that if a problem did exist it could lie in any one of a number of areas; animal populations might be declining, distributors may not be promoting the product aggressively, customers may be experiencing difficulties in getting the chemicals, and so on and so on.

This is a good example of where insufficient is known to develop clear objectives since the problem cannot be articulated with any precision. Thus the any research would be of an exploratory nature. Such research can take the form of literature searches, informal personal interviews with distributors and users/non-users of the product and/or focus group interviews with prospective customers and/or distributors. Exploratory research is intended to help in the task of formulating a researchable problem and testable hypotheses.

Descriptive research

As the name suggests, descriptive research is concerned with describing market characteristics and/or marketing mix characteristics. Typically, a descriptive study specifies the number and size of market segments, the alternative ways in which products are currently distributed, listing and

comparison of the attributes and features of competitive products etc.

This type of study can involve the description of the extent of association between variables. For example, it may be observed that there is an association between the geographical location of consumers and their tendency to consume red meat. Note that we are able to describe the relationship rather than explain it. Nonetheless if the relationship between the two is fairly stable this descriptive information may be sufficient for the purposes of prediction. We may, for example, be able to predict how fast the per capita consumption of red meat is likely to rise over a given time period.

The principal difference between exploratory and descriptive research is that, in the case of the latter, specific research question have been formulated before the research is undertaken. When descriptive research is conducted, a great deal is already known about the research problem -perhaps because of a prior exploratory study- and researchers are in a position to clearly define what they want to measure and how to do it.

Causal research

Causal research attempts to deal with the 'why' questions. This type of research is employed when there the objective is to understand to know why a change in one variable brings about a change in another variable. If we can understand the causes of the effects we observe then the ability to predict and control such events is increased.

Case 11.2 Why The Chiquita Banana Changed Sex

In the mid-1950s, the United Fruit Company was the major supplier of South American bananas into the USA. At that time the company had sales of around US\$45 million and was achieving a very respectable net return of 15 percent on sales. Within ten years, United Fruit suffered a loss of US\$0.5 million.

A major contributing factor, to this reversal in fortunes, was the onset of Panama disease which affects the Gros Michel variety of banana in particular. The Gros Michel banana -or 'Big Mike' as it was known in the company- was the variety favoured by United Fruit's agronomists because it yielded large fruit, ripened uniformly, could withstand a fair amount of rough handling and had a longer shelf life. However, Gros Michel became an increasing liability to United Fruit when Panama disease struck the company's South American plantations. United Fruit spent millions of dollars spent million of dollars trying to rehabilitate farms struck by this virulent disease but to no avail. The company then resorted to opening up virgin rain forest to banana cultivation. This, however, was costing the company US\$25-30 million annually and could not be sustained.

United Fruit sent agronomists all over the tropics to search for a banana variety that might replace Gros Michel. Some 400 varieties were studied and eventually a variety originating in Vietnam and known by the feminine name of Valery was identified as a possible replacement for 'Big Mike'. Valery was resistant to Panama disease and could be planted on farms that had previously been abandoned due to infestation by Panama disease. Moreover, whereas Gros Michel grew up to 6 metres in height, Valery averaged 2.5 metres. Thus the latter was less susceptible to damage by high winds and was easier to harvest.

The switch from Gros Michel to Valery had to be marketed to United Fruit's own staff, who believed "Big Mike" was irreplaceable, to distributors and consumers. Taste panels were

conducted and it was found that Valery was just as acceptable to the palate as Gros Michel. Then a series of controlled experiments were conducted whereby Gros Michel was placed on the shelves of a sample of retail stores. After a while Valery was switched for Gros Michel and then back again. Sales levels for the days on which Gros Michel was on display were compared to those on the days that Valery was on the shelves. Few buyers knew the difference between the banana varieties and so sales did not vary significantly.

United Fruit decided to take the opportunity develop the Chiquita trademark, which was promoted to the trade, into a consumer brand. This had never been attempted before in the fruit trade. To determine the quality standards which the branded fruit should achieve and maintain consumers were presented with plastic banana samples representing the whole spectrum of product in terms of colours and sizes. The consumer preference data was used to establish the brand specifications. Various forms of labeling were tried and eventually a small sticker was attached to each banana. A special glue had to be developed to ensure that the Chiquita label would adhere even to wet banana skins.

At every stage of the transition from 'Big Mike' to Valery United Fruit continually researched the market. In addition, they thoroughly researched the marketing system. The Valery variety was more susceptible to damage in transit than Gros Michel and so a new system of dehandling the bananas and boxing them at the point of harvest was developed. United Fruit achieved its goals. They set a goal of obtaining a twenty cent price premium to recoup the cost of branding and packaging. This was soon achieved and then surpassed. Every ten cents premium price yielded an incremental profit of US\$2.9–US\$3.8 million and when the company began exporting to Europe and Japan the payback from branding and packing was two to three times the value of the incremental profit in the USA. The change from "Big Mike" to Valery, which began as an enormous problem for United Fruit was turned into a tremendous marketing opportunity³.

By way of an illustration consider a common task given to marketing researchers, i.e. that of forecasting sales. Probably the simplest approach is that set of techniques known as time series forecasting. To build a time series forecasting model the researcher will examine historical sales patterns. If the researcher is fortunate there may be a recognisable and recurrent pattern of peaks and troughs in sales when past sales and time periods are set alongside one another. The relationship between the two may be expressed as a mathematical formula or, more simply, could be depicted graphically. The resulting model can be used to forecast sales. No matter how accurate this model proves to be it could not be classified as causal. It would not reveal anything about the reasons 'why' sales rises or fall over a given time span. When researchers plot sales against time, as with time series forecasting models, 'time' is being used as a proxy variable for unknown explanatory variables. Causal research would seek to identify the individual variables that act, either independently, or in concert to bring about a given effect. A causal forecasting model would incorporate all of these variables and would represent their interactions in the form of a mathematical algorithm.

Step 4 Select the data gathering method:

In addition to deciding who should supply his marketing research needs the manager will also want to contribute to the decision as to what type of data is most appropriate, i.e. primary data or secondary data

Secondary data

The term 'secondary data relates to data which has been collected by individuals or agencies for purposes other than those of a given research study. For example, if a government department has conducted a survey of family food expenditures, then a food manufacturer might use this data in evaluating the total potential market for a new product. Similarly, statistics prepared by a ministry on agricultural production will prove useful to a whole host of people and organisations including, those marketing agricultural supplies, storage companies, transport operators, processing enterprises, commodity brokers, retailers, government policy makers and many more.

No marketing research study should be undertaken without a prior search of secondary sources of data and information. There are several grounds which give confidence to such a bold statement:

- Secondary data may be sufficient to solve the problem. On occasion it happens that adequate data may be available to the extent that primary data collection unnecessary.
- Data collection costs are substantially lower for secondary data in comparison to primary data. A thorough search of secondary sources can be completed at a fraction of the cost incurred in even a modest primary data collection exercise.
- The time involved in searching secondary sources is far less than that needed to complete primary data collection. A systematic search of secondary sources can be completed in a fraction of the time it takes to complete primary data collection.
- Secondary sources of information can yield more accurate data than that obtained through primary research. This is not always true but where a government or international agency has undertaken a large scale survey, or even a census, this is likely to yield far more accurate results than independent surveys when these are based on relatively small sample sizes.
- Secondary data helps define the research problem and to formulate hypotheses. The assembly and analysis of secondary data almost invariably improves the understanding of the marketing problem, the various lines of inquiry the study could take and the alternative course of action which might be pursued.
- Secondary sources help define the population. Secondary data can be extremely useful both in defining the population and in structuring the sample to be taken. For instance, government statistics on a countries' agriculture will help decide how to stratify a sample and, once sample estimates have been calculated, these can be used to project those estimates from the sample to the population.

Whilst the benefits of secondary sources are considerable, their shortcomings have to be acknowledged. The main problems may be categorised as follows:

Problems with secondary sources

Definitions: The researcher has to be careful, when making use of secondary data, with regard to the definitions used by those responsible for its preparation. Suppose, for example, the issue of interest is the average family size in rural communities. If published statistics are consulted then a check must be made on how terms such as, family size, have been defined. They may refer only to the nucleus family or could include the extended family. Even apparently simple terms such as 'farm size' need careful handling. Such figures may refer to anyone of the following; the land an individual owns, the land an individual owns plus any additional land he rents, the land an individual owns minus any land he rents out, all of his land or only that part of it which he actually cultivates.

Measurement error: Whenever samples are used to estimate population values (e.g. the frequency of purchase of all users based on a sample of users) there are always errors within the estimate. The extent of the error in such estimates is revealed by two statistics, the standard

deviation and the standard error of the sampling means. The standard deviation and standard error, these are sometimes not published in secondary sources. The only solution is to try to speak to the individuals involved in the collection of the data to obtain some guidance on the level of accuracy of the data.

Source bias: Researchers have to be aware of vested interests when they consult secondary sources. Those responsible for their compilation may have reasons for wishing to present a more optimistic or pessimistic set of results for their organisation. It is not unknown, for example, food shortages to be exaggerated when reports are being prepared for submission to aid organisations. Similarly, agribusinesses may report lower trading volumes because their levels of trade have implications with respect to tax liability.

Reliability: The reliability of published statistics may vary over time. It is not uncommon, for example, for the systems of collecting data to have changed over time but without any indication of this to the reader of published statistics. Geographical or administrative boundaries may be changed by government or the basis for stratifying a sample may have altered.

Changes in either the method of data collection or in the way variable have been defined also create difficulties when the researcher wishes to describe trends over time or wishes to compare to different time periods.

Time scale: Most census take place at 10 year intervals so data from this and other published sources may be out-of-date at the time the researcher wants to make use of the statistics.

Sources of information

Secondary sources of information may be divided into two categories; internal sources and external sources.

Internal sources of information

All organisations collect information in the course of their everyday operations. Orders are received and delivered, costs are recorded, sales personnel submit visit reports, invoices are sent out, returned goods are recorded and so. Much of this information is of potential use in marketing research but a surprising amount of it is actually used. Organisations frequently overlook this valuable resource by not beginning their search of secondary sources with an internal audit.

For example, consider how much information can be obtained from sales invoices:

- sales by territory
- sales by customer type
- average size of order by customer
- customer type, geographical area
- average sales by sales person
- sales by pack size and pack type.

External sources of secondary information

The main external sources of secondary data are (1) government departments (2) trade associations (3) domestic and international commercial information services (4) national and international development organisations institutions.

Government Statistics: Federal, state and local government departments usually publish a wide range of statistics. These may include all or some of the following:-

- population censuses

- social surveys, family expenditure surveys
- import/export statistics
- production statistics
- agricultural statistics

Trade Associations: Trade Associations differ widely in the extent of their data collection and information dissemination activities. However, it is worth checking with them to determine what they do publish. At the very least one would normally expect that they would produce a trade directory and, perhaps, a yearbook. Chambers of commerce could also prove useful as an information source.

Commercial Services: Published market research report and other publications are available from a wide range of organisations who charge for their information. Typically, marketing people are interested in media statistics and consumer information which has been obtained from large scale consumer or farmer panels. The commercial organisation funds the collection of the data, which is wide ranging in its content, and hopes to profit from selling this data to interested parties.

National and International Institutions: Bank economic reviews, University research reports, journals and articles are all useful sources to contact. International agencies such as World Bank, FAO, UNDP, ITC and ILO produce a plethora of secondary data which can prove extremely useful to the marketing researcher.

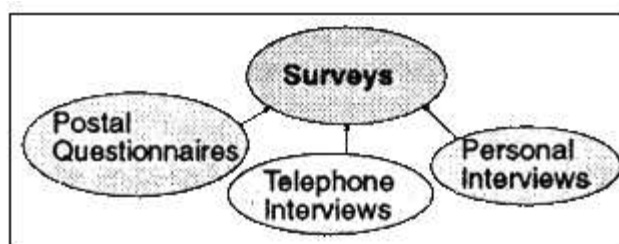
Primary research

Primary research is that which has been specifically designed to address particular marketing problems or questions. Perhaps the approach most readily associated with marketing research is the survey but as we are about to see this is but one, and not invariably the most appropriate, approach. The principal approaches to primary marketing research are:

- Survey research
- Qualitative research
- Observation
- Experimentation
- Continuous research

Survey research: Surveys are characterised by a relatively large number of respondents and the desire to project the results obtained from a sample to a population. If the sample is drawn using a probabilistic method then we can place confidence levels on the inferences we make about the population. Where a non-probabilistic method is used we cannot say how certain or uncertain we are about our inferences. Nonetheless if the sample is reasonably large, and comprised of a good cross-section of the target population, then marketing researchers tend to *assume* that the sample results are representative of the population. The main forms which surveys take are depicted in figure 11.4.

Figure 11.4 Types of survey



When studies are carried out on a large scale the questionnaires tend to be highly structured. Most, if not all, of the questions will have a closed-end response format. Thus, whilst the large scale survey is the most appropriate approach where the need is for numerical data. For example, if we were considering launching a new range of flavoured milk and wanted to estimate demand in order that we could decide on production schedules then a large scale consumer survey might be the best approach. If on the other hand, our problem were one of finding out why so many people did not drink milk then it would be difficult to design a questionnaire, of reasonable length, which anticipated all possible responses. In such circumstances, it would probably be better to conduct a smaller number of in-depth interviews.

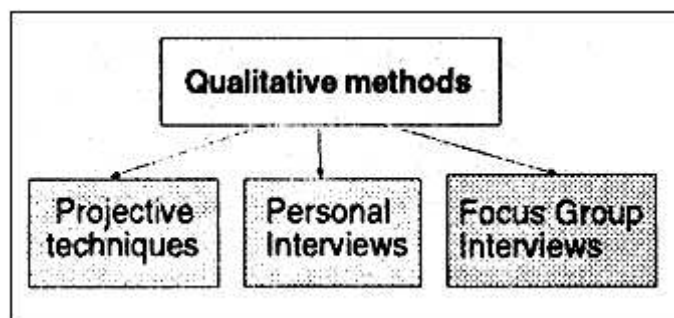
In essence, large scale surveys are useful where the questions are of the 'how many', 'how often' and 'when' type but they are blunt instruments for answering questions of the 'why' kind.

Qualitative research: In situations where the researcher is primarily interested in *why* people think and/or behave in a particular way rather than in being able to quantify things, then qualitative research methods are likely to be employed. Qualitative methods have at least four distinguishing characteristics:

- Small numbers of respondents. The idea is to devote a considerable amount of time on each interview to get to the heart of a matter.
- Unstructured question formats. That is, the questions are not completely predetermined and the interviewer is free to probe for all details and underlying feelings.
- Indirect measurement of respondents' feelings and beliefs. Respondents provide descriptive information about their thought and feelings. These are not easily projected to the population.
- Direct observation. The interviewer not only records answers but observes how questions affect interviewees. Hesitant answers, agitation, smiling, sweating, calmness, boredom etc. are all observable and all tell us something about the individuals state of mind.

Three commonly employed qualitative marketing research methods are projective techniques, focus groups and depth interviews.

Figure 11.5 Qualitative research methods



Focus groups: Each focus group generally involves six to eight people who meet with a moderator for a discussion. The discussion is *focused*, by the moderator on a particular topic. Typically, a group session will last one to two hours. The discussion is free ranging with the moderator intervening only periodically to stimulate the discussion in a particular direction. The moderator uses a discussion guide rather than a questionnaire. This guide is simply an agenda of the topics which the group should cover. Thus, the focus of the discussion, at any point in time, is subtly controlled by the researcher (hence the term *moderator*). Participants in the groups are chosen on the basis that they belong to the target market.

Any number of focus groups may be held in connection with a particular marketing problem but the results are not strictly projectable to the population since the selection of participants is in no way probabilistic.

Depth interviews: Depth interviews are like lengthy psychoanalytic sessions between a single respondent and a highly skilled interviewer. The idea is to get to the deep, hidden underlying attitudes and feelings the respondent has towards a product, service, company or problems which a product is trying to solve.

Depth interviews are of most value where a study deals with (1) a confidential, emotionally charged or embarrassing matter; (2) a behaviour for which socially acceptable norms exist and the need to conform in group discussions influences responses; (3) a complex behavioural or decision-making process that requires a detailed idiosyncratic, step-by-step description; and (4) when group interviews are difficult to schedule for the target population.

Projective techniques: On occasion, the interests of the research are best served by obtaining information on respondents' beliefs and feelings indirectly. Projective techniques presume that respondents cannot or will not communicate their feelings and beliefs directly. Instead, respondents are encouraged to respond indirectly by projecting their own feelings and beliefs into the situation as they interpret the behaviour of others. The most common projective techniques are:-

Thematic apperception tests	Respondents are presented with a series of pictures or cartoons in which consumers and products are featured. Participants are asked to study the situation depicted and to comment on what is happening or what might happen next. In this way, respondents are encouraged to project their own feelings and beliefs onto the situation portrayed in the pictures or cartoons. The term <i>thematic apperception test</i> is used because themes (<i>thematic</i>) are elicited based on the perceptual-interpretive (<i>apperception</i>) use of pictures and cartoons.
Word association	Respondents are presented with a series of words, one at a time, and asked to indicate what word comes immediately to mind. The respondent's response and time to respond are recorded. Elapsed time and associations are the key measures. Word association is commonly used in the testing of brand names.
Sentence completion	Sentence completion tests are similar to word association. Respondents are asked to conclude a number of incomplete sentences with the first word or phrase that comes to mind. Responses are then analysed for content and meaning.
Scenario/story completion	Respondents are asked to complete the end of a story or supply the motive for why one or more actors in a story behaved as they did.
Third person/role playing	Respondents are presented with a visual or verbal situation in which they are asked to relate the feelings and beliefs of a third person - for example, a friend, neighbour, another farmer or 'typical' person - to the situation, rather than to directly express their own feeling/beliefs about the situation. In this way the individual reveals his/her own inner most feelings, attitudes and motives.

As was said earlier, qualitative research methods are, best employed where the task is to address 'why' questions. However, the results of qualitative research are rarely projectable to the population at large. Moreover, they must be carried out by interviewers trained in psychology and/or sociology.

Observation: Methods of data collection involving directly or indirect, human or mechanical measurement of behaviour, are termed observational methods. These can be particularly useful in situations where the respondent is either unable or unwilling to report past behaviour, or in cross-cultural research where it is possible that imperfect translation of the questions can occur. Observation methods are also called naturalistic inquiries because, in their purest form, such studies demand a natural setting. This is because behaviour takes its meaning as much from their context as they do from themselves⁴. Examples of observation methods include pantry and dustbin audits, and physiological measurements.

Case 11.3 Antiguan Horticultural Produce Finds Its Niche By Researching The Market

The small island of Antigua in the West Indies suffered an oversupply of tomatoes and cucumbers between November and March. This precisely matches a period in the UK when there is no local supply of this produce. The island is visited three times per week by a 747 jumbo jet enroute to the UK. These circumstances suggested that there would be prospects of Antigua being able to export tomatoes and cucumbers to the UK market.

Before going further a study of the British market was undertaken. The marketing research quickly established that Antiguan tomatoes and cucumbers could not compete on either price or quality. However, the same study revealed that there were opportunities for Antiguan produce in serving the needs of the British Asian and West Indian markets for tropical fruits and vegetables. The study suggested that there was a demand for mangoes, okra, chilli, bitter gourd and scotch bonnet peppers.

A test marketing programme was established in which sample consignments were sent to a panel of six importers in the UK. These importers were asked to provide feedback on how produce quality and presentation could be improved and what prices could be obtained. The Antiguan growers also used this exercise to evaluate the type of importer they should select to handle their produce.

At the end of the marketing research programme one importer was selected by the Antiguan growers and he was chosen because he supplied the West Indian community. Examples of packaging used in the UK was sent back to Antigua and copied by a Caribbean packaging company. Samples of competing products were also shipped back to let Antiguan growers see the quality of produce that they would need to match. A very favorable air freight rate was negotiated with the airline for regular shipments of over a tonne of horticultural produce.

Antiguan growers proved themselves to be marketing oriented. Their programme was market-driven being based on research into existing competition and the needs of intermediaries and customers. The test marketing enabled growers and exporting organisations to learn, on a small scale what was necessary to export and market the produce and the importer/wholesaler was chosen on the basis of his ability to reach the target market⁵.

Pantry and dustbin audits

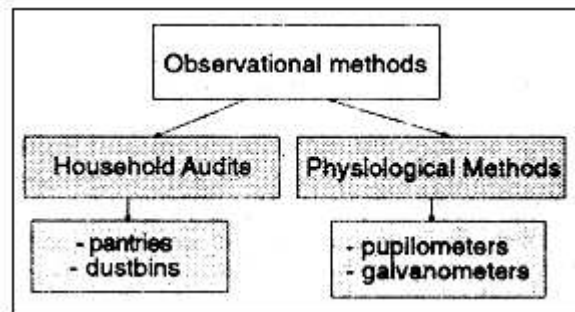
In the 1900s an American named Charles Parlin proved to the Campbell Soup Company that wealthy people who employed household help did not use canned soup but that blue-collared families did. His method of establishing his case was to inspect the refuse, or garbage, of a sample of households over a period of time. He reasoned that if simply questioned some respondents would distort their answers because they felt, in those days, that using convenience foods carried a social stigma. Parlin's methods have been extended and refined and today, dustbin audits and pantry audits are commonly used in the industrialised countries. Participating families are asked to place all product packaging in specially marked plastic bags. These are picked up by the research company perhaps twice per week and taken to a central location for checking. Researchers then record, for each item, (1) the product type and class, (2) the number of items of that product, (3) product size (weight for solids, fluid ounces for liquids etc.) (4) price of the product on the container and (5) the brand name of the product. Equally popular as the

dustbin audit, and conducted along the same lines, is the audit of participating families' pantry's, fringes and freezers.

Physiological measurement

A more sophisticated approach to naturalistic inquiries is the monitoring of a respondent's involuntary responses to stimuli. Two types of physiological measurement techniques are the pupilometer and the galvanometer. The pupilometer attaches to a person's head and measures interest and attention by the amount of dilation in the pupil of the eye. It has been used most extensively in the testing of advertisements and product packaging. The galvanometer measures excitement levels by recording the electrical activity in the person's skin.

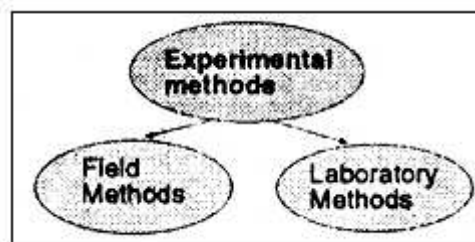
Figure 11.6 Observation methods



Observational methods are often the most accurate way of measuring overt behaviour but, of course, they have little to contribute in the measurement of attitudes and feelings and other variables which cannot be directly observed.

Experimentation: An experiment entails some sort of test which allows us to discern the effects of an independent variable on a dependent variable. An independent variable is manipulated by the researcher and is sometimes termed an explanatory variable since it is assumed to be related in some way to the dependent variable(s) under study. Experimental approaches to marketing research can be classified as either laboratory experiments or field experiments.

Figure 11.7 Experimental methods



Field experiments: A field experimental environment is a natural setting. For example, suppose the research was intended to measure the effectiveness of alternative merchandising units for a range of dairy products. If there were say two possible designs an experiment could be conducted whereby each design is placed in several retail outlets. Then, over a period of time, a measure of the sales in each outlet could be obtained and a judgement made as to which design, if either, maximised sales. This was the approach used by United Fruits (see case 11.2) when the company was trying to determine what effect the replacement of the Gros Michel variety by the Valery variety would have on retail banana sales. Over a period of time the variety on retail shelves was switched back and forth and sales levels were recorded. The reader may recall that the conclusion from this test was that the variety had very little effect on sales; suggesting consumers could not tell the difference between the two bananas.

Control is an important factor in all forms of experimentation, including field experiments. In the case of the example of the dairy products merchandising units great care would have to be taken

to match the retail outlets each of the merchandising units is placed in on criteria like their size, location etc. In short, we wish to be sure that any differences or variance in sales can be confidently put down to the merchandising unit and not to differences in other aspects of the retail outlets.

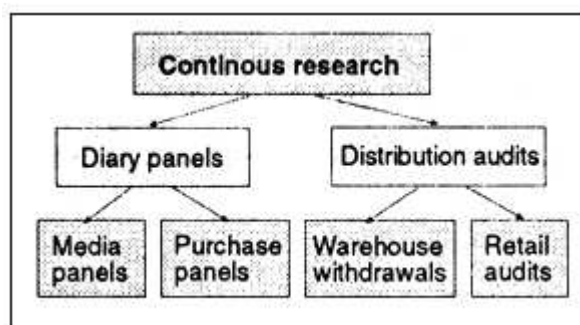
Field experiments can be applied to many marketing problems but perhaps the most noted application is that of test markets. Prior to a company or organisation undertaking a national launch of a new product/service it may be decided to launch not only the product but the proposed marketing programme in a limited area. The area is normally selected on the basis of its being a microcosm of the country. Test markets, it should be remembered, are used to test the whole of the proposed marketing mix. If the results of the test market warrant an adjustment to elements of the marketing mix then this can be done before the national launch.

Laboratory experiments: The laboratory environment allows the researcher to have direct control over most, if not all, of the crucial factors that might affect the experimental outcome. Laboratory experiments have been used in concept testing, taste testing, packaging testing, advertising effectiveness studies and simulated test markets.

The chief advantage of experimental approaches is that behaviour can be directly observed rather than asking people about events retrospectively, when their memory may not be accurate; or ask them to project how they would behave in a given set of circumstances, when it is difficult for them to be sure of how they would react to an actual phenomenon or stimulus. Experiments however, do not give rise to statistical generalisation. Whereas a researcher might ask 1,000 people, or more, what they think of a given product, and then project these results to the population, few would consider running the same experiment 1,000 times or more. Experiments give rise to analytic generalisation to a theory and not statistical generalisation to a population.

Continuous research: Certain types of data are gathered on a regular basis as opposed to the *ad hoc* survey. Moreover, researchers will use standardised methods in order that the data collected at one point in time is comparable with that collected at other times. In this way, a picture of market *trends* can be built up. This type of longitudinal research is often funded on a syndicated basis. Syndicated research usually involves an independent research company collecting data and supplying it simultaneously to a number of clients. For example, the same group of farmers may be sent a standardised questionnaire every 6 months with a battery of questions about what implements they have purchased since the last survey, what herbicides, pesticides, animal health products and or post harvest treatments they have purchased, what application rates they have used with respect to seeds, crop/animal protection chemicals etc. This data would then be sold to a wide range of companies supplying agricultural inputs. These companies are likely to be regular, rather than *ad hoc*, subscribers to the research. Reports to these subscribers will be customised to some degree. For example, reports can be organised on the basis of the client's sales territories and, of course, a seed company would not, for example, be given a report containing data on animal health products. Figure 11.9 depicts the principal types of continuous research studies.

Figure 11.8 Types of continuous research



Diary panels

Diary panels involve samples of households that have agreed to provide specific information

regularly over an extended period of time. For this reason they are often referred to as continuous panels. Respondents are asked to keep a specially designed diary. Purchase panels record details of the products they purchased, sizes, brands, flavours, prices paid etc. Media panels record details of newspapers, magazines, periodicals bought and/or read, television programme watched, radio stations listened to and so on. Typically, the completed diary is returned to the research company every one to four weeks.

Media panels are primarily used for establishing advertising rates for radio, television and printed media. Purchase panel data can be used to forecast sales levels or market shares of new products, for identifying trends and establishing demographic profiles of specific user groups, for evaluating test markets, for testing different advertising campaigns and for estimating brand switching and repeat purchase rates.

Although the discussion has focused on consumer panels it should be noted that panels can, and have been, successfully established using farmers.

Audit services: An audit involves a systematic examination of either how much of a product has sold at the shop/store level (retail audit) or how much of a product has been withdrawn from warehouses and delivered to retailers (warehouse withdrawal audits). Participating wholesale/retail outlets receive basic reports and a cash payment. Like panel data, the figures compiled from these exercises are sold to a large number of clients; many of whom compete against one another.

Audits provide relatively precise information on the movement of many different types of goods. Since most products are not sold directly to the end user, but to retailers, wholesalers and distributors, the manufacturer does not have information on sales at the retail level. Even though information on factory shipments are available, warehouse stocks might be accumulating because of limited retail sales. Moreover, audits give information on how competing products are faring in the marketplace.

Continuous research provides a type of information not available through and hoc surveys, experiments or observation exercises i.e. trends in consumption, tastes and fashion. If a manufacturer is a regular subscriber to this type of data he/she can see patterns in the marketplace emerge and take pre-emptive action. However, there are potential weaknesses in continuous research methods. With panels the main problems are threefold; (1) they often under-represent minority groups in the population, (2) over time the panel ages and so there are heavy costs in continually recruiting new, younger participants to maintain the panel's representativeness, and (3) knowing their purchases or readership/viewing/listening behaviour is being scrutinized can alter that behaviour. In the case of audits the chief hazard is that if a large wholesale/retail organisation, or outlet, refuses to participate then the sample may be far from reliable for the purposes of projection. Another problem with audits is that they are time consuming. There is typically a two month gap between data collection and the publication of the report

Step 5, Development of an analysis plan

Those new to marketing research often intuitively believe that decisions about the techniques of analysis to be used can be left until after the data has been collected. Such an approach is ill-advised. Before interviews are conducted marketing researchers should be apply the following check-list:

- Do I know how each and every question is to be analysed? (e.g. which univariate or bivariate descriptive statistics, tests of association, parametric or nonparametric hypotheses tests, or multivariate methods are to be used?)
- Do I have a sufficiently sound grasp of these techniques to apply them with confidence and to explain them to the decision-maker who commissioned the study?
- Do I have the means to perform these calculations? (e.g. access to a computer which has an analysis program with which I am familiar? Or, if the calculations have to be performed

manually, is there sufficient time to complete them and then to check them?)

- If a computer program is to be used at the data analysis stage have the questions been properly coded?
- Have I scaled the questions correctly for the chosen statistical technique? (e.g. A t-test cannot be used on data which is only ordinal or ranked)

There is little point in spending time and money on collecting data which subsequently is not or cannot be analysed. Therefore consideration has to be given to issues such as these before the fieldwork is undertaken.

Step 6: Data collection

At this stage the researchers are ready to go into the field and collect the data. Before deploying interviewers in the field there are several aspects of recruitment and fieldwork which have to be carefully managed. First, the manager must be aware that interviewers are required to achieve, and maintain, a high standard of work without continuous supervision or daily contact with colleagues. The manager must also be conscious of the fact that the task of the interviewer is not mechanistic: interviewers often have to use a great deal of initiative and effort, for example in locating obscure addresses, securing appointments and co-operation from reluctant -perhaps suspicious- respondents and administer complex questionnaires. Third, the manager may have to take into account that, although most professional survey organisations have full-time teams of trained interviewers, additional, often untrained, interviewers frequently have to be recruited to supplement the trained field force. For *ad hoc* surveys, in some instances, a marketing manager may decide to train, organise and supervise the survey team him/herself.

All of this underlines the fact that fieldworkers have to be fully trained before they go into the field. Moreover, a manager has to be selective when employing field staff since their task is technically skilled and requires a high level of dedication and a tenacious spirit if the work is to be properly completed.

Above all, data collection has to be well planned. In addition to ensuring that field personnel are adequate to the task both in number and training, care has to be taken in the planning of sampling, call backs on respondents absent on the first visit, logistics with respect to data gatherers and the collection and submission of questionnaires, checking of completed data forms/questionnaires, data analysis and so on.

Step 7, Performance of the analysis

The word 'analysis' has two component parts, the prefix 'ana' meaning 'above' and the Greek root 'lysis' meaning 'to break up or dissolve'. Thus, Dey⁶ describes data analysis as:

"...a process of resolving data into its constituent components, to reveal its characteristic elements and structure."

Where the data is quantitative there are three determinants of the appropriate statistical tools for the purposes of analysis. These are the number of samples to be compared, whether the samples being compared are independent of one another and the level of data measurement.

Suppose a fruit juice processor wishes to test the acceptability of a new drink based on a novel combination of tropical fruit juices. There are several alternative research designs which might be employed and each involving different numbers of samples.

Test A	Comparing sales in a test market and the market share of the product it is targeted to replace.	Number of samples = 1
Test B	Comparing the responses of a sample of regular drinkers of fruit juices to those of a sample of non- fruit juice drinkers to a trial formulation,	Number of samples = 2

Test C	Comparing the responses of samples of heavy, moderate and infrequent fruit juice drinkers to a trial formulation	Number of samples = 3
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The next consideration is whether the samples being compared are dependent (i.e. related) or independent of one another (i.e. unrelated). Samples are said to be dependent, or related, when the measurement taken from one sample in no way affects the measurement taken from another sample. Take for example the outline of test B above. The measurement of the responses of fruit juice drinkers to the trial formulation in no way affects or influences the responses of the sample of non-fruit juice drinkers. Therefore, the samples are independent of one another. Suppose however a sample were given two formulations of fruit juice to taste. That is, the same individuals are asked first to taste formulation X and then to taste formulation Y. The researcher would have two sets of sample results, i.e. responses to product X and responses to product Y. In this case, the samples would be considered dependent or related to one another. This is because the individual will make a comparison of the two products and his/her response to one formulation is likely to affect his/her reaction or evaluation of the other product.

The third factor to be considered is the levels of measurement of the data being used. Data can be levels of measurement:nominal, levels of measurement:ordinal, levels of measurement:interval or levels of measurement:ratio scaled. The following table summarises the mathematical properties of each of these levels of measurement.

Table 11.1 Levels of measurement

Measurement scale	Measurement Level	Examples	Mathematical properties
Nominal	Frequency counts	Produce grading categories	Confined to a small number of tests using the mode and frequency.
Ordinal	Ranking of items	Placing brands of cooking oil in order of preference	Wide range of nonparametric tests which test for order.
Interval	Relative differences of magnitude between items	Scoring products on a 10 point scale of like/dislike	Wide range of parametric tests
Ratio	Absolute differences of magnitude	Stating how much better one product is than another in absolute terms.	All arithmetic operations

Once the marketing researcher knows how many samples are to be compared, whether these samples are related or unrelated to one another and the level of measurement then the selection of the appropriate statistical test is easily made. Figure 11.9 provides a useful guide to making that final selection.

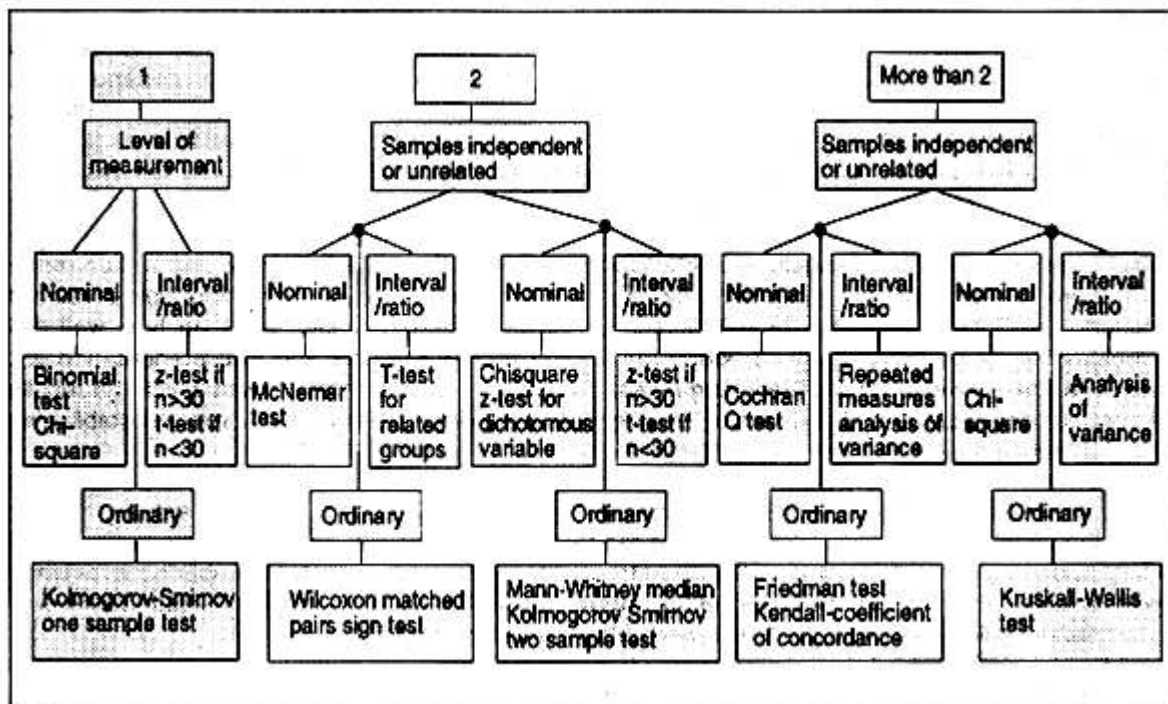
To illustrate the importance of understanding these connections consider the following simple, but common, question in marketing research. In many instances the age of respondents will be of interest. This question might be asked in either of the two following ways:

Please indicate to which of the following age categories you belong-	15–21 years	_____	How old are you? _____ Years
	22–30 years	_____	
	Over 30 years	_____	
(a)	(b)		

Choosing format (a) would give rise to nominal (or categorical) data and format (b) would yield ratio scaled data. By These are at opposite ends of the hierarchy of levels of measurement. If by accident or design format (a) were chosen then the analyst would have only a very small set of statistical tests that could be applied and these are not very powerful in the sense that they are

limited to showing association between variables and could not be used to establish cause-and-effect. Format (b), on the other hand, since it gives the analyst ratio data, allows all statistical tests to be used including the more powerful parametric tests whereby cause-and-effect can be established, where it exists. Thus a simple change in the wording of a question can have a have a fundamental effect upon the nature of the data generated.

Figure 11.9 Selecting statistical tests



The individual responsible for commissioning the research may be unfamiliar with the technicalities of statistical tests but he/she should at least be aware that the number of samples, their dependence or independence and the levels of measurement does affect how the data can be analysed. Those who submit marketing research proposals, involving quantitative data, should demonstrate an awareness of the factors that determine the mode of analysis and a capability to undertake such analysis.

Step 8, Reaching conclusions and recommendations

The end products of marketing research are conclusions and recommendations. Marketing research should be designed to help to identify potential threats and opportunities, generate alternative courses of action, provide information to enable marketing managers to evaluate those alternatives and advises on the implementation of the alternatives.

Moser and Kalton⁷ believe that:

“...whatever the nature of the data, the task of interpretation falls squarely on the shoulders of the researcher.”

Not everyone agrees with this perspective. Some believe that researchers should confine themselves to ‘reporting the facts’. Ehrenberg⁸ says that this is not only undesirable but is impossible since implicitly or explicitly, the researcher's value judgements will colour the presentation of ‘the facts’. The view taken in this textbook is that researchers should interpret their data. At worst, the researcher will at least display his/her biases and prejudices and at best he/she will share valuable insights gained as a direct result of carrying out the fieldwork. Too often marketing research reports chiefly comprise a lengthy series of tables of statistics accompanied by a few brief comments which verbally describe what may already be self-evident from the tables. Without interpretation, data remains data rather than information. It is information which management needs to reduce the inherent risks and uncertainties in management decision

making.

Guidelines on report content and presentation

The results of marketing research must be effectively communicated to management and the commissioner of the research should, on behalf of him/herself, and the marketing colleagues who intend to act on the report, that is both clear and concise. Presenting the results of a marketing research study to management generally involves a formal written report as well as an oral presentation. The report and presentation are extremely important. First because the results of marketing research are often intangible (after the study has been completed and a decision is made there is very little physical evidence of the resources such as time and effort, that went into the project); the written report is usually the only documentation of the project. Second, the written report and the oral presentation are often the only aspect of the study to which marketing executives are exposed, and consequently the overall evaluation of the research project rests on how well this information is communicated. Third, since the written research report and oral presentation are typically the responsibility of the marketing research supplier, the effectiveness with which the results are communicated and the usefulness of the information provided plays a crucial role in establishing the reputation of the researcher.

Preparing a research report involves other activities besides writing; in fact, writing is actually the last step in the preparation process. Before writing can take place, the results of the research project must be fully understood and thought must be given to what the report will say. Thus, preparing a research report involves three steps: understanding, organising and writing. The general guidelines that researchers should be encouraged to followed for any report are as follows:

- | | |
|---|--|
| 1) Think of the audience | The information resulting from the study is ultimately of importance to marketing managers, who will use the results to make decisions. Thus, the report has to be understood by them; the report should not be too technical and jargon avoided wherever possible. For example, where statistical tests have been applied it should not be assumed that the reader understands terms such as significance level, degrees of freedom, type 1 errors etc. Rather, where necessary these should be explained in non-technical terms. |
| 2) Be concise yet complete | On the one hand, a written report should be complete in the sense that it stands by itself and that no additional clarification is needed. On the other hand, the report must be concise and must focus on the critical elements of the project and must exclude issues that are not material to the decisions that the managers wishes to be in a position to make. |
| 3) Understand the results and draw conclusions: | The managers who read the report are expecting to see interpretive conclusions in the report. The researcher must therefore understand the results and be able to interpret these. Simply reiterating facts won't do, and the researcher must ask him/herself all the time "so what"; i.e. so what are the implications of this particular result. |

The summary of findings is perhaps the most important component of the written report, since many of the management team who are to receive a copy of the report will only read this section. The summary of findings is usually put right after the title page, or is bound separately and presented together with the report.

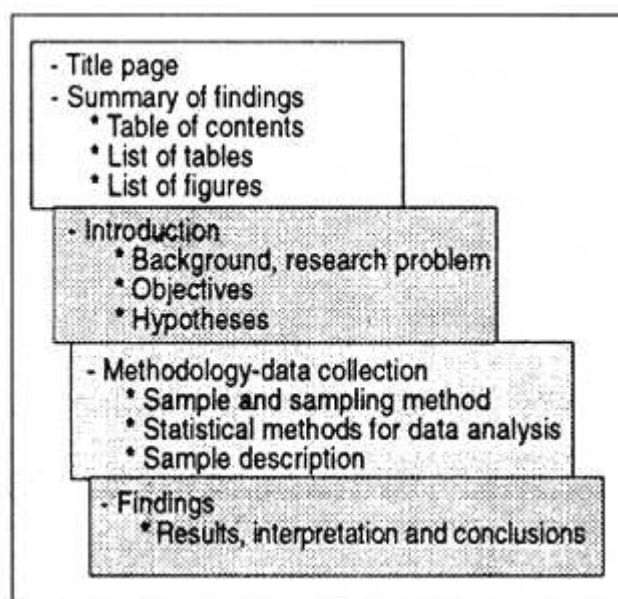
The introduction should describe the background of the study and the details of the research problem. Following that, automatically the broad aim of the research can be specified, which is then translated into a number of specific objectives. Furthermore, the hypotheses that are to be tested in the research are stated in this section.

In the methodology chapter the sampling methods and procedures are described, as well as the different statistical methods that are used for data analysis. Finally, the sample is described, giving the overall statistics, usually consisting of frequency counts for the various sample

characteristics.

The figure below contains a suggested outline format for writing the research report.

Figure 11.10 Research report writing format



Once the sample has been described, the main findings are to be presented in such a way that all objectives of the study are achieved and the hypotheses are tested. As mentioned before, it is essential that the main findings are well interpreted and conclusions are drawn wherever possible.

Wherever possible the research proposal should contain a skeleton outline of the contents of the final marketing research report. That is, the researcher should convey to the decision maker the kinds of information that he/she intends to put into the report. If this is not exactly what the decision maker feels he/she requires then the differences can be resolved at an early stage of the project rather than becoming a source of conflict after the research has been completed.

Summary

Marketing research helps reduce the level of uncertainty with which marketing managers must cope by converting the raw facts and figures of data into information. In order to do this effectively, marketing research must be conducted systematically, objectively and analytically.

Decision makers wishing to make use of marketing research must communicate the purpose and objectives of the research, the resources which can be devoted to a particular study and the time constraints of the study.

The individual or group charged with undertaking a marketing research exercise responds to the research brief with a research proposal. The research proposal sets out the research design and the methodology that the researcher proposes to follow. There are eight essential steps in research design; problem definition, determination of whether the study required is exploratory, descriptive or causal, selection of the method(s) of data gathering, a plan of the data will be analysed, an outline plan of the data collection programme and a skeleton outline of what the final report will contain.

Marketing research findings and conclusions must be effectively communicated to management. Written reports need to be both clear and concise. A sensitivity towards the needs of the reader is of prime importance. The report should not be too technical and jargon avoided wherever possible, must exclude issues that are not material to the decisions that the managers wishes to be in a position to make and should be rich in interpretive conclusions.

Key Terms

Audits	Exploratory research	Qualitative research
Causal research	Hypotheses	Research brief
Continuous research	Measurement levels	Research design
Descriptive research	Observation methods	Secondary research
Experimentation	Primary research	Syndicated research

Review Questions

From your knowledge of the material in this chapter, give brief answers to the following questions below.

1. Name the 3 key words used in the definition of marketing research by Green, Tull and Albaum.
2. Define the term hypothesis.
3. What are the 3 types of research described in this chapter?
4. Under what circumstances would depth interviews be an appropriate method of data collection?
5. What are the principal problem of operating research panels?
6. What factors determine which statistical tests are appropriate for a given data set?
7. What are the key characteristics of qualitative research?
8. What are the 2 forms of experimentation?
9. List the main problems to be aware of when making use of secondary data.
10. Explain how the thematic apperception test method is applied in marketing research.
11. What is the advantage of drawing probabilistic samples?
12. What term is used to indicate the leader of a focus group session?

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Chapter 12

Marketing Costs And Margins

By performing certain functions and services, various marketing organisations and agencies make it possible for commodities, produce and products to move from producers to consumers. However, these functions incur costs, often of considerable magnitude. Discussions on margins and costs usually include the topic of marketing efficiency. An efficient marketing system is one capable of moving goods from producer to customer at the lowest cost consistent with the provision of the services that customers demand. Once the costs involved in marketing have been identified then means can be devised to make the system more efficient. Increases in efficiency can be achieved in a variety of ways: by increasing the volume of business using improved handling methods, investing in modern technology, locating the business in the most appropriate place, implementing better layouts and working practices in production, improving managerial planning and control and/or by making changes in marketing arrangements (e.g. through horizontal or vertical integration).

Objectives Of The Chapter

The chapter is aimed at enabling the reader to:-

- Understand what the term *marketing efficiency* means and the varied forms it can take
- Distinguish between *marketing efficiency* and *marketing effectiveness*
- Identify the factors which influence the level of efficiency and level of effectiveness of a marketing system, and
- Determine how marketing costs and margins can be calculated.

Structure Of The Chapter

The chapter begins with an overview of the twin concepts of marketing efficiency and effectiveness before examining the different forms which marketing efficiency takes, i.e. operational efficiency and pricing efficiency. There then follows a discussion of the reference product concept which allows marketing managers and industrial analysts to compare costs, margin and efficiency levels at different stages of the marketing system. The remainder of the chapter is largely comprised of an explanation, and illustrations of how marketing costs and margins can be measured or estimated whilst taking into account product losses, the production of by-products as well as production, processing, handling, storage, transportation, packaging and capital costs.

Assessing the performance of a marketing system

It might be thought that the performance of a marketing system could be evaluated in terms of how well the agricultural and food marketing system performs what society and the market participants expect of it. However, it soon becomes apparent that marketing systems have multiple and often conflicting goals. Compromises and trade-offs will be necessary if the various participants in the marketing system are to be satisfied. For example, consider the perspectives

of just three parties involved in agricultural marketing systems consumers, farmers, society and government. Consumers are likely to evaluate a marketing system in terms of its performance in avoiding high and fluctuating prices, shortages in supply and consistency in delivering products or produce of acceptable quality. Farmers' concerns could be rather different. Their criteria might include the capacity of intermediaries to exert undue influence on prices, the extent of competition in the sectors supplying farm inputs and accessibility of marketing infrastructure at reasonable cost (e.g. suitable storage and transportation). Society is likely to give consideration to the marketing system's contribution to employment, its impact on the environment and the ethical standards to which it is perceived to adhere. Government's perceptions of a marketing system will also be coloured by its impact on employment. In addition, government will probably take into account the sector's contribution to investment, economic growth and the national treasury through its taxable income. In the case of staple foods, governments will also be greatly interested in a marketing system's ability to avert protests from the electorate against unaffordable food prices. Given these different perspectives there are several contrasting measures which are commonly used in assessing the performance of a marketing system. These are:

- the farmer's/grower's share of the retail price paid by the end user or consumer
- the gross marketing margin or farm-retail price spread, and
- the proportion of a consumer's income which must be spent on food.

Whatever the perspective from which a marketing system's performance is evaluated, the terms most commonly used are efficiency and effectiveness. These are not one and the same thing.

Marketing efficiency and effectiveness

A marketing system can be effective without being efficient. An example of such a system is that created by Indonesia's parastatal Bulog. Indonesia is a country comprised of thousands of islands (not all of which are inhabited). Bulog was charged with the onerous responsibility of physically distributing rice and ensuring that everyone was supplied with their basic food requirement. (Hence the name, Bureau of Logistics, Bulog). Before Indonesia became capable of self-sufficiency in the staple food, the sole criterion of Bulog's success or failure was of its effectiveness in delivering rice to where it was needed. The costs in doing so were a secondary consideration as long as Bulog could keep its costs within whatever budget could be made available to it.

Increased efficiency is in the best interests of farmers, traders, processors, wholesalers, retailers, consumers and society as a whole. The efficiency of a marketing system is measured in terms of the level and/or costs to the system of the inputs, to achieve a given level and/or quality of output. Such inputs are generally in the form of land, finance, time, manpower and materials. Typical outputs include the movement of a given amount of product to markets at specific distances, the supply of a particular level of service to target market segments and the supply of products at a target price. Hence resources are the costs and utilities are the benefits that comprise the marketing efficiency ratio. Efficient marketing optimises the ratio between inputs and outputs.

Operational efficiency

Improved operational efficiency is evident where marketing costs are reduced but outputs are either maintained or actually increase. Examples of operational efficiency gains would be the introduction of a less expensive method of storing grain or an innovative milk package that reduces energy costs when the product sits in retailers' refrigerators. Technological innovations are not the only avenue leading to higher levels of operational efficiency. An organisation that improves its raw material procurement practices, by say centralising purchases, buying in larger quantities or taking advantage of unit freight rates, is likely to increase operating efficiency. In the same way, an organisation that rearranges sales territories and distributes fewer but larger loads to each delivery point can improve its levels of operational efficiency. Physical losses as

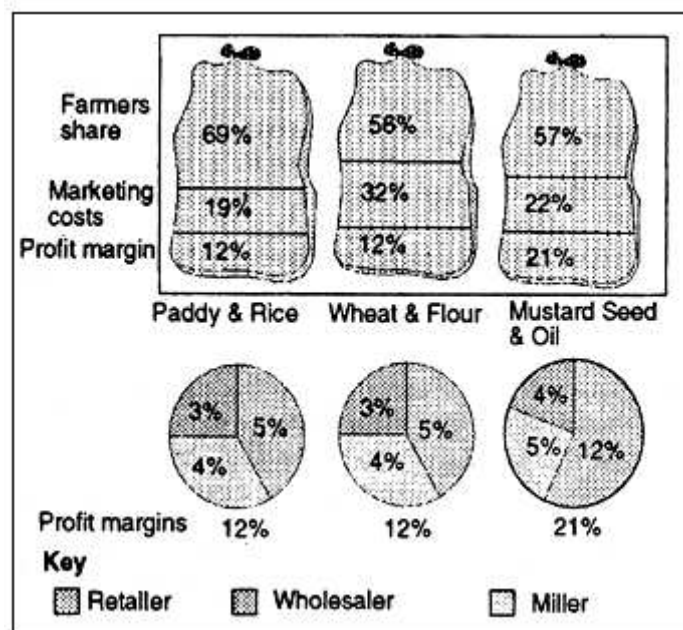
commodities, produce or products move through the channels of distribution are another aspect of operational efficiency. The higher the losses, the lower the level of operational efficiency.

In practice, changes in the cost of marketing influence consumers' satisfaction, and efforts to increase the customer's utility often affect marketing costs. A new marketing practice that reduces costs but also reduces consumers' satisfaction may actually reduce the efficiency ratio. For instance, millers might improve efficiency by withdrawing 5 kg bags of meal from the market and sell minimum quantities of 10 kg bags. If a substantial number of consumers prefer to buy the 5 kg bag then the decrease in customer satisfaction could be greater than the gains made in cost reduction to the miller. The compromise which must be made between operational efficiency and customer satisfaction explains the difficulty of improving marketing efficiency. It is not difficult to reduce marketing costs by taking such measures as reducing the number of pack/bag sizes, eliminating packaging or reducing the number of retail outlets supplied but there may be a greater loss in customer satisfaction than is compensated for by the fall in marketing costs and retail prices. When evaluating any marketing change intended to improve marketing efficiency, both cost reductions and customer utility must be considered.

Marketing firms, operating within a competitive environment, are especially well motivated in seeking to increase operational efficiency. Although their goal may be higher profits, often the benefits of improved operations accrue to customers in the form of lower prices. Competition acts as a brake on the extent to which profits increase and limits any tendency for customer service and satisfaction levels to fall.

Figure 12.1 was constructed from data in Pant's¹ study of marketing costs and margins for major agricultural commodities in Nepal. It will serve to illustrate price spread analysis. Price spread analysis draws a distinction between the farmer's share of the price to the end user and its reciprocal, the farm-retail price spread. The farm-retail price spread measures the gross percentage of the final retail price which accrues to each category of participant in an agri-marketing system, other than the farmer, in return for the marketing services which they perform.

Figure 12.1 Marketing costs and margins for major agricultural commodities in Nepal



It can be seen that in each case it was the Nepalese farmer who received the greater proportion of the retail price. Whether or not this is a fair proportion depends upon the level of marketing services provided by the farmer. Such services would include some or all of the following: crop drying, grading, sorting into convenient lots, bagging, storage and transporting. In fact, Nepal's farmers provide few of these services. Pant states that due to financial constraints and a lack of storage facilities, most farmers sell their paddy at the earliest opportunity. In practice this means that paddy is sold chiefly between November and January. It is the millers and wholesalers who

provide the storage services and so are able to sell rice throughout the year. However, as figure 12.1 shows, the millers and wholesalers receive only a small percentage of the consumer price, as do retailers. There is a *prima facie* case for concluding that the marketing intermediaries in Nepal are inadequately rewarded relative to the farmers. There are other equally plausible conclusions. Since the farmer's share includes the farmer's costs, production inefficiencies will increase the proportion of the final price which will go to farmers. These inefficiencies can arise for a number of reasons. If the great majority of farmers are very small then the farming sector may be denied access to economies of scale. Where credit cannot be obtained from the formal sector then smallholders may be forced to pay exorbitantly high interest rates to informal lenders. Another cause of inefficient production is the continued use of obsolete technology or husbandry methods.

The data presented in figure 12.1, is not sufficient to allow conclusions as to problem causes but merely suggests areas to which analysts could direct their attention. Indeed, no matter how complete the data it is dangerous to rely only upon quantitative data when assessing the efficiency and fairness of a given marketing system, or the efficiency of particular market participants. Consider the hypothetical data in table 12.1 in which different prices are obtained from growing tomato varieties suitable for canning and those which are best consumed fresh. The table shows the prices paid by consumers, the farm-retail price spread and the percentage of the consumer's dollar that went to the farmer for each type of tomato.

Table 12.1 Margins, shares and costs and marketing efficiency

	Fresh Tomatoes	Canning Tomatoes
Retail price (50 kgs) ^a	\$20.00	\$40.00
Marketing margin	\$12.00	\$32.00
Farmer's return	\$8.00	\$8.00
Farmer's %	40%	20%

a. That is, 50 kg fresh equivalent.

The difference in the percentage of the retail price which goes to the farmer is striking. Those farmers who grow fresh tomato varieties receive forty percent of the price to the consumer but farmers' supplying tomatoes for canning only get twenty percent of the consumer's dollar. However, due to the differences in retail prices for these tomatoes, both groups of farmers earn \$8. Obviously a smaller percentage of a large number can match or exceed a large percentage of a smaller number. Thus a lower farmer's share of the consumer's dollar does not necessarily mean lower farm prices or returns. The grower will be much more interested in dollars than percentages. If the market for canned tomatoes was to show increasing demand then total aggregate marketing costs of tomatoes would increase and the farmer's share would fall as a percentage. But if with this change in the market consumers could be encouraged to buy more tomatoes at higher prices then actual returns to growers could increase. In these circumstances higher marketing costs could be popular with both consumers and farmers. Kohls and Uhl² hold the view that:

"It is doubtful that the statistics of the farmer's share merit the attention they receive. The important thing is not the size of the share, but the total return received by agricultural producers from the sale of their products. Higher marketing costs and a more prosperous agriculture are compatible ideas. It is very probable that as the standard of living rises, increased demand for more processing and marketing services will increase marketing costs."

Moreover, the share of the retail price obtained by the various market participants is not of itself a measure of their relative efficiency. It is much more likely that these shares reflect the amount of value that these parties add as any given commodity passes through the marketing system.

Pricing efficiency

Pricing efficiency is a second form of marketing efficiency and is based on the assumption that competitive markets are efficient. It is concerned with the ability of the marketing system to allocate resources and coordinate the entire agricultural/food production and marketing process in accordance with consumer directives. The evidence of pricing efficiency is efficient resource allocation and maximum economic output. Possibly the best measure of the satisfaction-output of the marketing system is the price that customers will pay in the marketplace for the produce, commodity or product in question. If consumers are willing to pay three cents more per orange for orange juice than for fresh oranges, it can be inferred that the process of juicing adds three cents of form utility to fresh oranges. The pricing mechanism directly affects production, in this instance, by indicating that a certain amount of the available oranges should be processed rather than sold as fruit.

Kriesberg³ says that the usefulness of pricing efficiency measures in evaluating any marketing system depends upon four conditions:

- That customers have alternatives from which to choose in the marketplace. In other words, the measure has little relevance to situations where there is an effective monopoly.
- The prices of alternatives adequately reflect the costs of providing them. That is, there are no subsidies hidden or otherwise for competitive products.
- Organisations must be free to enter or leave the market.
- There must be competition between those in the marketplace. For example, cartel-like behaviour should not be in evidence.

Theory suggests that if markets are operating efficiently then prices of a given product will be related over space and time, and between forms. Prices should only differ between geographic areas of a country by transportation costs from one point to another. Similarly, the price of storable products at one point in time should not exceed the price in a previous period in time by more than the cost of storage. And, again, the price of a processed product should not exceed the price of the unprocessed equivalent by more than the cost of processing.

Advocates of the pricing efficiency concept believe that prices which do not reflect the costs of marketing services are clues to functional deficiencies, chief among them being monopolistic power. Competition plays an important role in determining pricing efficiency. Market oriented organisations compete for custom by lowering marketing costs, increasing operational efficiency wherever possible, and at the same time adding more utility to the products in order to gain more market share.

Frequently there are conflicts between the different varieties of efficiency. For example, a new technological development may improve a firm's operational efficiency and permit it to grow very large. However, this growth may reduce the number of firms and thereby affect structure and competition in the industry, and in turn perhaps lower price efficiency.

Identifying marketing costs and margins

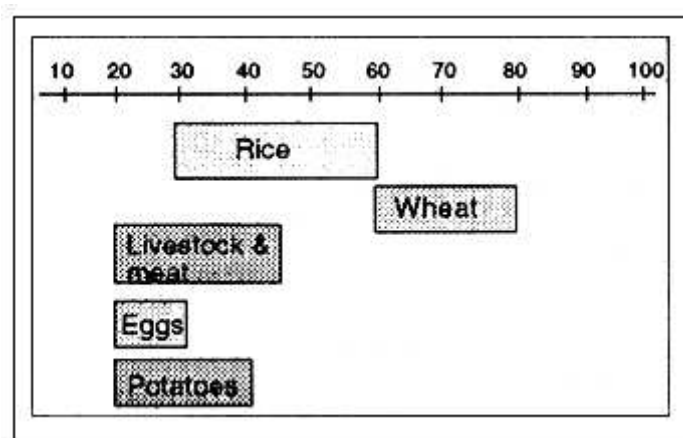
Marketing costs are incurred when commodities move from the farm to the final market, whether they are moved by farmers, intermediaries, cooperatives, marketing boards, wholesalers, retailers or exporters. With increased urbanisation and industrialisation, marketing costs tend to increase relatively to the farmgate price received by the farmer, i.e. the product moves greater distances, through more intermediaries and is more sophisticated in its packaging. Marketing costs can also reflect the state of a country's development in that as standards of living increase, smaller proportions of income are expended on raw products of the farm and greater proportions are spent on additional and improved marketing services. Increasing the value added means, among other things, that more people in developed countries are involved in marketing agricultural products than in producing them.

Marketing costs include labour, transport, packaging, containers, rent, utilities (water and energy), advertising, selling expenses, depreciation allowances and interest charges. Marketing costs vary from commodity to commodity and product to product. There are several factors that individually or collectively account for these differences. These include:

- the more waste the greater the proportion of customers' expenditure which goes on marketing costs
- the more perishable the product the greater the marketing costs
- the more processing of the commodity the greater the marketing costs
- the greater the amount of produce handling and transportation the greater the marketing costs.

From a wide ranging survey of marketing costs in developing countries Kaynak⁴ reported on wheat, rice, potatoes, eggs and livestock products. Summary data from this survey are presented in figure 12.2.

Figure 12.2 Typical marketing costs and margins for major agricultural products in selected developing countries^b



A marketing margin is the percentage of the final weighted average selling price taken by each stage of the marketing chain. The margin must cover the costs involved in transferring produce from one stage to the next and provide a reasonable return to those doing the marketing. An example of the margin calculation is shown in exhibit 12.1.

Exhibit 12.1 Calculating market margins

These calculations are based on figures given earlier in the chapter, that is where the buying price from the farmer is \$0.50 per kg, the weighted average wholesale selling price is \$0.90 per kg and the weighted average retail price is \$1.17 per kg.	
Share to the producer (\$0.50/\$1.17	= 0.427 or 43%
Wholesale margin (\$0.90 - \$0.50)/\$1.17	= 0.342 or 34%
Retail margin (\$1.17 - \$0.90)/\$1.17	= <u>0.230 or 23%</u>
Total margin	= 0.572 or 57%

b. The countries included in the study which gave rise to these figures were: Bangladesh, Bolivia, Chile, Colombia, Cyprus, India, Indonesia, Jamaica, Jordan, Kenya, Korea, Mexico, Nepal, Pakistan, Papua New Guinea, Peru, Philippines, Thailand, Turkey, Zambia.

Looking at margins and changes in margins does not necessarily prove that there is a problem, but rather such examinations suggest that there may be a problem which requires further investigation by studying the marketing costs. For example, in recent years many countries have reduced the role of grain marketing boards and increased private trader involvement in grain marketing. A comparison of margins under the old system with those under the new marketing

channels may show that marketing margins are higher under private traders. A little knowledge is a dangerous thing, so on the basis of this margin comparison, people may argue for a return of the marketing board. They may think that traders are making excessive profits, but the marketing board was probably making a loss every year. Its margins were low because its costs were not fully reflected. The government may have had to write off the loss made by the board, something which would not be done for the private sector. Also, changes from government to private marketing have often been part of "Structural Adjustment Programs" which have frequently led to rapid rises in interest rates. The marketing board may have used subsidised low interest loans, the private traders now have to pay the full cost of capital. Moreover, under structural adjustment, currencies have often been devalued heavily. This puts up the cost of capital items, such as trucks, and inevitably leads to higher marketing costs.

Case 12.1 From Bloom To Doom In Colombia's Cut Flower Industry When Marketing Costs And Margins Shift

Colombia is perhaps the most important player in the worldwide market for cut flowers. The country accounts for over 60% of the carnations sold on the international market, over 20% of the pompons, some 8% of the chrysanthemums, and 4% of the roses. All of this was achieved within a 12 year period.

The industry started in 1964 and immediately benefited from competitive advantages. To begin with, the region around Bogota in Colombia is ideal for growing carnations the most important flower on the international market- with its rich volcanic soils, evenly divided day between hours of darkness and light, and ideal climate (the temperatures is cool and constant with temperatures in the 18°C–21°C range). With these conditions growers were able to harvest an average 3.2 crops per year. Land around Bogota sold at about \$5,000 per hectare whereas in San Diego a hectare could cost \$45,000, Air freight was relatively inexpensive from Bogota to Miami. In 1969 it cost 8 cents to ship a bunch of carnations from Bogota to Miami where they sold for \$1.05 a bunch. Colombia also had the advantage of low labour costs. Wages were around \$1.30 per day in Colombia compared to over \$20 per day in the USA. By 1970, around 78 percent of Colombia's cut flowers were exported to the USA.

There has been an unfavourable shift in Colombia's costs and margins over time. The major floriculture companies in Colombia relied heavily on short term debt financing to underpin the continued expansion of the industry and to fund research and development. In the mid 1970s a credit shortage emerged and was accompanied by very high interest rates. In addition, the oil crises of the 1970s quadrupled shipping costs, the recession reduced demand for cut flowers substantially and the Colombian Government decided to end its 13 percent rebate scheme for exporters. Very quickly, the major companies in the industry began to lose money and had to sell a majority interest in their companies to raise much needed capital. The Colombian flower industry has since recovered but many of the natural advantages which the region had enjoyed dissipated. By the end of the 1970s labour unions had formed and managed to raise wages from \$1.30 per day to \$5.00 per day with a similar amount again in employment benefits. Land prices and the costs attached to other inputs have continued to rise and interest rates have remained high. As a consequence profitability has reduced considerably. The country also failed to adequately invest in developing research and extension

services to support floriculture and so Colombian growers experienced increasing problems with plant diseases.

Whilst it remains the case that Colombia can supply a superior product all year round, the upward pressure on its costs are making countries such as the Dominican Republic, Mexico and Venezuela look increasingly attractive alternatives as centres of flower production.

This case serves to highlight the need to monitor costs. Many of the rising costs experienced by the Colombian flower industry were out of the control of growers with the possible exception of the high interest charges. By electing to rely on debt capital, as opposed to equity capital, the industry exposed itself, more than it should have, to the vagaries of the general economic climate. Moreover, its loans were short term and so interest rates would be higher than for long term loans and when shortages in capital occurred the industry struggled to obtain adequate financing⁵.

“Margins” are often used in the analysis of the efficiency of marketing systems. Often they are misused even if they are correctly calculated. The presentation of a trader's share of the final selling price in percentage terms can give a totally misleading impression unless there is an understanding of the costs involved. Often people who research marketing costs and margins start out with the assumption that traders exploit farmers. When they look at the margins they may think they have found the proof. The calculation in exhibit 12.1 could, for example, be written up as “traders keep more than half the income from tomato sales”, such an analysis could then be used to try to justify government intervention in marketing, whether it be to establish minimum prices or to start a marketing board. Yet it is quite possible to arrive at such margins with reasonable costs and very small net profits for the two traders involved.

Because margins are expressed in percentages they appear to be high. Furthermore, because a “reasonable” marketing margin may have been estimated at some point in time there is a tendency not to accept that such margins can and must change. For example, some governments have, in the past, announced that cash crop farmers will get a certain percentage of the export price. This percentage may have been established when prices for the cash crop were high; it no longer remains useful if prices fall. If the farmer gets 80 percent of the export price for coffee when the on-ship price is \$20,000 a ton this permits a marketing margin of \$400 a ton. If the world market price then collapses so that the on-ship price is \$1,000, an insistence that farmers get 80 percent will mean that the margin will not be enough to cover costs. With the exception of operating capital costs, which will fall as the price goes down, marketing costs will stay more or less constant in money terms. Therefore, marketing margins will rise in percentage terms although staying constant in monetary terms as the price falls.

As explained earlier, increases in marketing margins due to increases in marketing costs may not mean increase in profits made by those doing the marketing. Moreover, where farmers receive only a comparatively small share of the selling price this does not necessarily mean that they are being exploited. Total margins will depend on the length of the marketing chain and the extent to which the product is stored or processed. To know whether margins are reasonable it is necessary to understand the nature and composition of marketing costs.

The reference product concept

The calculation of marketing costs and margins is obviously a necessary prelude to determining whether these are reasonable in relation to the value added. This is true whether the perspective is that of a policy maker assessing the performance of the sector or an individual firm evaluating its own performance. There are two possible ways of proceeding. The first is to begin at the farmgate and follow the product through to the end consumer. The second approach is to start with retail prices and calculate backwards to the farmer. The important point is that there must be consistency in the approach adopted. For instance, because of processing and wastage, 1 kg of

wheat sold by a farmer will result in, say, only 0.75 kg available for sale to the consumer. Under such circumstances one cannot compare the costs attached to 1 kg of wheat with those of 1 kg of bread because the analyst would not be comparing like with like and could not state that the difference between the two represent the costs of marketing. Similarly, it is important to know whether processing costs are measured as cost-per-unit of bread or cost-per-unit of wheat. Smith⁶ proposes that the starting point should always be 1 kg of product as sold to the consumer. This he calls the *reference product*.

In most cases, identifying a reference product's final costs and those attached to the materials from which it was obtained is easily achieved since the prices can usually be ascertained. However, the analyst must be aware that there may be a range of prices simultaneously in operation and seasonality may also affect prices. Nonetheless, allowances can be made for such circumstances. The difference between the sale price and purchase price of 1 kg of the reference product (or its equivalent in raw materials) at any stage in the marketing process is called the *gross margin* for that stage. The difference between the consumer purchase price and the farmgate price of 1 kg of the reference product (or its equivalent in raw materials) is termed the *total gross margin*.

It is much more difficult to correctly identify the costs at each stage because this involves obtaining information from marketing agents or making reliable estimates of the likely level of costs. The main problems are:

- Agents usually handle more than one product and several items of indirect cost may be shared amongst the various products, e.g. a retail outlet which sells many different types of food would have difficulty in accurately defining the cost associated with selling 1 kg of a particular product.
- The costs associated with marketing 1 kg of a reference product may vary considerably, e.g. A cattle dealer may purchase some stock only a few kilometres from the abattoir whereas others may have to be transported several hundred kilometres. It is therefore important to ascertain whether average costs or actual costs are being reported.
- There are a variety of ways in which agents can estimate and report costs. A good example is that of depreciation charges where there are three or four equally acceptable approaches but each yielding different amounts. Another example is the variety of ways in which enterprises choose to allocate overheads and other indirect costs. The prudent course of action is to ensure that the method employed is always explained so that correct comparisons can be made.
- Government involvement in marketing can make it difficult to identify costs because many government agencies do not publish cost accounts and/or they subsidise or tax market operations in hidden, or indirect, ways.
- In some marketing systems the marketing agent hires or purchases the majority of the resources he uses. In other situations, the resources are mainly owned by the agent. The *net margin* is normally defined as the gross margin minus all costs paid to resource owners other than the marketing agent. From what has just been said it is apparent that two activities performed with similar effectiveness and with similar gross margins may have widely different net margins. It is therefore desirable to identify the services provided by the agent and try to estimate the opportunity costs of resources used. These imputed costs can be taken from a review of the remuneration of others engaged in producing or marketing the product being studied.

Product losses⁶

When calculating marketing costs and margins there are two phenomena that can confound the estimations: product losses, or shrinkage, and the value of by-products⁷.

Shrinkage: During the marketing process some of the produce will be lost, stolen, spoilt or otherwise wasted so that more than 1 kg of produce is required at the beginning of a marketing

stage to provide a consumer with 1 kg of the reference product. This is termed shrinkage. Sometimes the amount of shrinkage at each stage of the marketing process may seem trivial, or difficult to measure, but if it is ignored it could seriously distort the assessment of the efficiency of the marketing process.

The causes of losses are many and varied: when there is a surplus, either because too much has been grown by the farmer or too much produce has been bought by the trader/retailer, physical losses will be high; poor harvesting techniques and bad handling on the farm (bruising, exposure to the sun) can mean that much damage has been done even before the produce is sold to the trader; when truckers are paid on a 'per piece' basis, farmers and traders try to squeeze as much as possible into the package and this can be a false economy as the loss resulting from the damage caused can exceed the savings in transport costs. Produce can be damaged in transit, by the constant shaking on bumpy roads, by exposure to sun on top of a bus, by high temperatures inside a truck or other vehicle (if a truck breaks down and has to sit at the side of the road for two or three days the entire consignment could not be sold). Delays and bad handling at the wholesale market can make things worse. Sometimes, for example, produce which has been well packed by the farmer or the trader is simply thrown onto a heap on the floor of the wholesaler's premises, causing further bruising and damage.

c. Andrew Shepherd has prepared a separate FAO publication, entitled, *A Guide To Marketing Costs And How To Calculate Them* in which he makes use of Smith's methodology but has added his own explanations and examples. This chapter makes considerable use of Shepherd's publication.

At all stages of the marketing chain some produce will be thrown away. This may be planned, as in the case of cabbage leaves where the outer leaves serve to protect the product and are later removed before offering the vegetable for sale, but in most cases it will be the result of losses caused by bad handling. Sorting should occur at all stages of the marketing chain to separate damaged from good produce. Losses in weight can occur even if produce is not thrown away. Most crops lose weight during transit and storage as the result of moisture loss. This is not necessarily a bad thing. For example, grain stores better when dry but it does mean that a kilogram of produce purchased from a farmer is not equal to a kilogram sold to a consumer by the trader.

This being the case, an estimate of losses must be made. This will not be easy unless the consignments are followed all the way through the marketing chain. Also, losses will vary according to the season: poor quality fruits which are unsaleable during a glut when prices are low may well be saleable when there is a shortage. It is not surprising, therefore, that many of the ambiguities in measuring costs and margins stem from shrinkage. Most Ministries of Agriculture have assessments of losses and these can be used as a starting point for estimates. However, there is often a tendency to exaggerate losses, so official figures should be treated with caution.

Smith⁶ has proposed a methodology for incorporating wastage or shrinkage rates in calculations of marketing costs and margins. The recommended procedure is to establish how much of the raw material it is necessary to purchase in order to supply the consumer with 1 kg of the reference product. The ratio between these two amounts of product is then used as a conversion factor to express all costs and margins in terms of 1 kg of the final product. Perhaps the methodology will be better understood through an example.

Exhibit 12.2 The effect of shrinkage rates on marketing costs and margins

A farmer sells tomatoes at \$4 per kg. These are then sold by a retailer at \$6 per kg but 10 per cent of the quantity purchased is lost in the marketing process. The only identified costs are wages which amount to \$1 per kg of product purchased from the farmer.

Since 10% (0.1 kg) of the purchased tomatoes is lost, 1 kg of them will produce only 0.9 kg of the reference product. It will thus require;

$\frac{1}{1.00 - 0.10}$	=	1.11 kg of tomatoes at the farmgate to provide 1 kg of the reference product.
This is then used as the conversion factor for all costs, i.e. \$ per kg of reference product.		
Selling price	=	\$6.00
Labour costs: 1.0×1.11	=	\$1.11
Total marketing costs	=	\$1.11
Purchase price: 4.0×1.11	=	\$4.44
Gross margin (selling price - purchase price)	=	\$1.56
Net margin (gross margin - all costs paid to outside resource owners)	=	\$0.45

Thus the best way to treat losses is to employ a method of calculation such as this one that allows comparisons to be made between the quantity eventually sold and the quantity bought from the farmer. It gives a more accurate estimate and also means that the costs involved in packing, transporting, handling and storing produce which is eventually lost are included. A second example of this calculation is given in exhibit 12.3 together with the a common, but incorrect, method of calculation.

Whilst Smith's methodology was developed in the context of processed products the approach can be used in other situations. If, for instance, a retailer marketing costs and margins must take into account factors which reduce the stock available for sale, such as pilferage Historical records can be used to estimate average losses due to theft and a conversion factor can be established. This then allows the retailer to take pilferage into account when setting prices and thereby recover this marketing cost.

There are quality as well as quantity losses. Quality losses reveal themselves when the trader has to sell part of a consignment at a lower price than the rest. This could be because produce deteriorates over the period it is being sold or because the trader expects that it will deteriorate before he has another opportunity to sell it. In many countries perishable fruits and vegetables are sold at low prices on Saturday evenings because markets are closed on Sundays. Such produce may be unsaleable on the Monday morning because it has to compete with fresh produce.

Exhibit 12.3 Calculating the cost of product losses

Assume that, at 10 percent loss levels, 1 kg of tomatoes purchased by the trader from the farmer results in 0.9 kg being available for sale to consumers. The trader buys tomatoes from the farmer at \$5 per kilogram and marketing costs are \$2 per kilogram for the tomatoes originally purchased. The selling price of tomatoes is \$8 per kilogram.

Then the costs are ...

1 kg purchased at \$5 per kg	=	\$5.00
1 kg packed and transported at \$2 per kg	=	\$2.00
Total Costs	=	<u>\$7.00</u>
Sales Revenue or $\$8 \times 0.9$ kg	=	\$7.20
Thus the margin to the trader	=	\$0.20

Below is an example of the more usual, but incorrect, method of calculation.		
1 kg purchased at \$5 per kg	\$5.00	= \$5.00
1 kg packed and transported at \$2 per kg		= \$2.00
10 percent losses i.e. 5×0.1		= \$0.50
Total costs		= <u>\$7.50</u>
Sales revenue 8×1 kg		= \$8.00
Thus the margin to the trader		= \$0.50
The second calculation is clearly wrong because the trader is seen to be obtaining revenue from produce which has already been 'lost'.		

In estimating the price the trader receives for produce he or she has probably purchased from the farmer at a fixed price per kilogram, therefore taking account of the fact that all of the consignment is unlikely to be sold at one price. Not only will there be price variations due to quality differences but prices will vary according to supply and demand in the market. To calculate the average price the trader receives there is need to calculate a weighted average price. An example of this calculation is shown in exhibit 12.4.

Exhibit 12.4 Calculating weighted average selling price

Assume an example involving a consignment of 100 kg of tomatoes as follows:-		
50 kg sold at \$2.00		= \$100
20 kg sold at \$1.40		= \$28
20 kg sold at \$1.00		= \$20
5 kg sold at \$0.40		= \$2
(5 kg which cannot be sold)		= -
Total Revenue		= <u>\$150</u>
Then the average selling price per kilogram is :-		
\$150/95		= \$1.58

Exhibit 12.4 shows a very different picture of trader revenue than if we had followed him/her to the market and recorded the price of his/her first sale, which would probably have been around \$2 per kilogram.

Processing and by-products: Products purchased by consumers are often very different in form from the original raw material purchased at the farmgate. Moreover, processing operations may create by-products that have a value of their own. These by-products are not, of course, part of the reference product and therefore have to be excluded from calculations of the marketing costs attached to the reference product. Smith's recommendation is the value of the by-product to record at the point where it is created and to subtract the by-product value associated with 1 kg of the final product at each previous stage in the marketing process back to the farmgate. In this way, the value of the by-products is 'netted out' from the calculations, leaving only the costs and margins associated with the reference product. Exhibit 12.5 contains a sample calculation.

Exhibit 12.5 Taking account of by-products when calculating marketing costs and margins

A miller purchased paddy at 25¢ per kg. The extraction rate is 70% (i.e. 1 kg paddy produces 700 g of edible rice and 300 g of by-products). The by-products sell at 5¢ per kg and the edible rice for 50¢ per kg. The total identified marketing costs		
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(packaging, milling, storage, transport etc.) are 5¢ per kg of paddy. The reference product is 1 kg of edible rice.	
For each 1 kg of paddy milled, 0.3 kg of by-products is created, so to produce 1 kg of edible rice	
$\frac{1.00}{1.00 - 0.30} = 1.429 \text{ kg of paddy are required}$	
This is the conversion factor for all costs per kg of reference product.	
Selling price	= 50.00¢
Total marketing costs i.e. 5.0×1.429	= 7.15¢
Purchase price of paddy, including by-products	= 33.58¢
Gross margin, net of by-products (sale price - purchase price of paddy - value of by-products)	= 12.12¢
Net margin, net of by-products (gross margin, net of by-products - total marketing costs)	= 4.97¢

If required, all marketing costs and margins can be shown as a percentage share of the reference product price, for example, the farmer's share of the reference product price is :

$$33.58/50 \times 100 = 67.16\%$$

As in the case of shrinkage calculations, it is important to know whether costs, conversion rates and by-product values are measured in relation to the product as purchased from the previous stage, or as sold to the next stage.

Handling costs

Handling costs are easily overlooked. Each time a product is handled the cost per kilogram will be negligible. But a product can be handled many times before it reaches the consumer. The sum total of all these small handling costs can be considerable, particularly in countries with relatively high labour costs.

In some cases it is possible to get an accurate idea of handling costs. For example, porters at wholesale markets usually charge a fixed rate per box or per cart. In other cases, however, there will not be a fixed charge. Costs per container will then need to be worked out approximately by dividing the wage of the employee by the number of packages handled. Where casual employees are recruited on an hourly basis (for example at a market) this might be fairly easy. Where the person is a full-time employee of the trader the calculation is more difficult. The employee may spend many hours sitting on a truck travelling between the farmer and the market. He will be doing nothing during this time but the trader will still have to pay him if he wants his assistance to load and unload.

Case 12.2 Commissioning Agents' Margins In Colombo's Vegetable Wholesale Markets

The wholesale market in Sri Lanka's capital Colombo is highly competitive with 670 commission agents available to growers wishing to sell their produce through that market. Wimalajeewa is one of these agents. He sells growers produce to wholesalers for the best price he can obtain and charges a 10 percent commission for doing so. Wimalajeewa does not take legal title to the produce. From receipts he deducts his commission and transport charges before passing on the

balance to the grower.

Wimalajeewa is unable to make forward contracts with wholesalers since most of the time he does not know what produce he will receive until it arrives at the wholesale market. About 200 smallholders deal through Wimalajeewa although some are more regular customers than others and none of them are tied to Wimalajeewa. Growers are free to sell through any of the agents on the market or can choose to trade on local markets.

Growers tend not to clean their produce before packing it in gunny bags or wooden crates. They then take the vegetables to a main road and look for any lorry driver transporting produce to the Colombo market. The grower sends a delivery note stating the quantity and type of produce and receives a receipt from the driver. Wimalajeewa receives the load in the early morning and checks it before paying the driver. Later, this transport charge is deducted from the grower's payment. He employs a small workforce to unload and store produce. The wholesalers pay for transport between the market and their own premises. If possible, Wimalajeewa will sell the produce on the same day it is received and will send an advice note to the grower immediately. Actual payment follows within a day or so.

It is common in Sri Lanka for middlemen to pay advances to growers against future produce deliveries. These advances may be used to cover social expenditures such as weddings, funerals or family emergencies or to pay for seeds, fertilizers or other cultivation costs. It is common for farmers to renege on these loans and to send the produce to other commissioning agents able to offer a higher price. Wimalajeewa himself has had to write off around \$1,500 in advances.

Both the grower and the commissioning agent account for only a small proportion of the price spread. For instance in one deal, Wimalajeewa sold a consignment of cabbages for \$3. Of this amount 70 cents was paid for the transport from the farm to the Colombo wholesale market and 30 cents (i.e. 10%) paid the agent's commission. The remaining \$2 went to the farmer. These cabbages would then sell for \$12 in a retail outlet. Wholesalers defend these differences on the grounds of a 5–25 percent produce loss incurred when cleaning the vegetables so that they become marketable. The wholesalers also contend that transportation charges between the market and their premises, then on to the retail outlet, can be very high⁸.

Packaging costs

Most products and produce need packing. Exceptions are grains and some larger fruits and vegetables such as pumpkins and water melons which may be transported in bulk. Leafy vegetables, such as cabbages, are also often transported in bulk. Here the outer leaves themselves act as a form of packaging by protecting the inner leaves. There is no packaging cost but it should be remembered that the outer leaves are often thrown away before sale and thus there is a cost in terms of product loss.

Packaging serves three basic purposes:-

- It provides a convenient way of handling and transporting produce. Costs would certainly be much higher if everything had to be carried and moved without any form of packaging.

- It provides protection of the produce. The efforts which are continually being made to improve bulk packaging are designed mainly to improve the protection offered rather than to increase the convenience of the packaging from a handling point of view.
- Packaging can be used to divide the produce into convenient units for retail sale and to make the produce more attractive to the consumer, thus increasing the price at which it can be sold.

Quite often the farmer will provide the packaging, such as jute or gunny sacks for maize and paddy, which is used right through the marketing chain. More complex and expensive packaging such as plastic crates will on the other hand, normally be the trader's responsibility.

A fruit or vegetable may be packed and repacked several times on its way between producer and consumer, depending on the length of the marketing chain. The farmer may use one type of packing (for example a sack) to take his produce to market. At the market a trader may transfer the produce to a wooden box or plastic crate for transport to the wholesale market. A retailer buying at the wholesale market may then transfer the produce to his own packaging and then repack it (for example in plastic bags) for convenient sale at his shop. All of these various types of packaging involve costs, and need to be taken into account when working out total marketing costs. The simplest packaging cost calculations are those where the bag, box, crate or basket is used only once. All that needs to be known is how much produce the package contains in order to work out the packaging cost per kilogram.

With the use of more expensive packaging every effort is made to use the packages over and over again. In these circumstances there is need to make an estimate of how many times the container is used to arrive at a cost per journey. Allowance must also be made for transporting empty package back to the beginning of the marketing chain. If a trader owns his own vehicle and all his business is in one direction (i.e. from farm to town) then his cost of returning the containers is negligible. If, however, he has to pay transport costs for the empty containers this can increase his packaging costs significantly. An example of this calculation is shown in exhibit 12.6.

Exhibit 12.6 Calculating packaging costs

Assume that oranges are packed 20 kg at a time in wooden boxes which, with occasional repairs, can be used for 10 trips. A box costs \$10, repairs and cleaning during its life costs \$2 and each time the box is transported back empty to the producing area costs \$1.

Then the packaging cost per trip is:-
$$[(\text{original cost} + \text{repairs}) / \text{no. of trips}] + \text{transport when empty}$$

That is:- (\$10 +\$2) / 10 trips + \$1 = \$2.20 per 20 kg and \$2.20 / 20 kg = \$0.11 per kg.

Sophisticated packaging will be used more when it significantly reduces losses; non-perishable produce will not require expensive packaging because the benefits of using it will be marginal. The possibility of using improved packaging made with local materials should always be considered.

Transport costs

Transport costs are incurred by farmers when they take their produce to the market and by traders as they move the produce down the marketing chain to the consumer. Sometimes transport costs are very obvious because they involve a direct payment by a farmer or trader to a truck owner or, in some cases, boat owner on a per piece basis. In other cases transport costs are less direct, as when the trader, or even the farmer, owns and operates his own vehicle. Sometimes there is no financial outlay but there is still an opportunity cost. For example, when a farmer uses animal transport, a bicycle or even carries the produce himself to get to an assembly market he could be doing other things with his time. This is a relevant marketing cost if the farmer has the possibility of selling his produce at the farm gate but feels his income will be higher if he takes it to the market. If the farmer has no alternative to going to the market then the time spent can be more properly regarded as part of his costs of production. If he doesn't go to the market he will not be able to sell his produce.

Payment to truck drivers to carry produce to market on a 'per piece' basis makes for easy marketing cost calculations but is usually a more expensive way of transporting produce. Truckers have no idea whether they will fill their trucks or not and so calculate their charges 'per piece' by assuming an average load over the season or year which is less than the capacity of the vehicle. Thus traders or farmers working in groups can, if they are sure they can fill a vehicle, save on transport costs by joining together to hire the truck, then it becomes cheaper per unit transport costs. Extension officers involved with marketing can play an important role by helping farmers or traders to organise to do this.

When produce is carried on a 'per piece' basis it is a simple matter to divide the cost per container by the number of kilograms in the container. When a truck is hired or the trader uses his own, the calculation is more difficult because the vehicle may be used for several different commodities each packed in a different sized container. For most trucks the factor limiting quantities carried is space available, not weight. Thus products which have a low weight-for-volume ratio (for example green peppers) should be costed at a higher per kilogram cost than produce which is heavier in relation to its volume. This requires making a rough estimate of the volume of the containers used for each commodity. The space available in the truck (minus an allowance for space that cannot be filled because of the shape of the containers, etc.) can then be divided by the volume of the containers, so allowing the cost per kilogram to be worked out. An example of this calculation is shown in exhibit 12.7.

The calculation becomes more complicated when a trader owns his/her own vehicle and the traders have to estimate transport costs. There are so many factors to consider in working out the costs per kilogram for one journey that this is best avoided unless there is no alternative information available to allow the cost to be estimated. If, for example, some traders use their own transport while others hire trucks on a 'per journey' or 'per piece' basis then the costs of the latter can be used as a 'best guess' of the costs to a truck-owning trader.

Because traders and truck owners are often accused of overcharging it is important to be aware of the transport costs they face. These include:

- wages paid to the driver and, where relevant, his assistant
- cost of fuel, maintenance, repairs and the like
- cost of licences, road tax, insurance and other necessary payments
- costs incurred en route such as tolls or bribes paid at official or unofficial road blocks and charges for entering a market
- the capital cost of the vehicle. When working out the yearly costs of the truck's operation there is need to include not only the cost of bank interest paid on a loan but also the annual depreciation (or loss of value) of the truck. When roads are bad trucks may last only a few years and thus depreciation will be a major cost.

Having identified annual transport costs it is then necessary to consider the amount of work the truck will do in one year in order to work out a cost per tonne per km. This will depend on:

- the periods in which produce is available to be marketed
- the other uses (if any) to which the truck can be put on return journeys or when not being used for agricultural marketing
- the days the truck is unavailable due to break-downs, repairs, services and the like
- when both produce and the truck are available, the number of journeys and kilometres the truck will be able to do.

Exhibit 12.7 Calculating transport costs

Assume that there are 40 m³ of space available in the truck to be used and that it costs \$500 to hire the truck. A container of 0.2 m³ holds 8 kg of tomatoes and a container of 0.4 m³ holds 10 kg of green peppers. Then the transport cost for tomatoes per container and per kilogram is :-
 $\$500 / (40 \text{ m}^3 / 0.2 \text{ m}^3) = \2.50
 per container
 and $\$2.50 / 8 \text{ kg} = \0.3125
 per kilogram
 While the transport cost for green peppers per container and per kilogram is :-

$\$500 / (40 \text{ m}^3 / 0.4 \text{ m}^3) = \5.00 per container and $\$5.00 / 10 \text{ kg} = \0.50 per kilogram
--

As can be seen, there are numerous individual costs which can combine to make produce transport extremely expensive. In many cases transport will be the most important marketing cost. It is therefore vital that the cost is calculated correctly. Expensive mistakes can be made if, for example, a village cooperative decides to buy a truck to compete with traders. If it under-estimates the costs of operating the truck or over-estimates the amount of produce it will handle it could end up with a large loss.

Storage costs

Storage is carried out in order to extend the period of availability of a crop to a consumer. In the case of staple food crops long-term storage is, of course, essential. The harvest period may be just a few months but the staple has to be consumed throughout the year. Storage can be carried out by the farmer, the trader (or marketing board) or by the consumer. With regard to more perishable crops, storage can be used to extend what is often a very short period of availability. However, this is only viable when the produce can be sold after storage at a price higher than the into-store price, with the difference fully covering the costs of storage, as well as offering an incentive to take the risk that a loss may result.

Storage costs fall into four categories:

- costs associated with the physical operation of the stores, that is the actual cost per kilogram which must be paid to place the produce in the warehouse or cool store. Such costs are made up of factors such as depreciation on the building, security, electricity and other utility costs and maintenance
- costs associated with the maintenance of the product quality while it is in store, for example, the cost of chemicals
- costs associated with loss of quality and quantity while the produce is in store
- the financial cost to the owner or the produce while it is in store.

The biggest single factor affecting storage costs is capacity utilisation. Where a store is used frequently full capacity costs per unit will be low. Where it is kept empty for much of the time costs will be high.

Where commercial storage facilities are used it is relatively simple to work out physical storage costs incurred by the trader as he will be charged on a basis such as kilogram/days, box/weeks or tonne/months. The cost per kilogram for the period the produce is in store can then be worked out. Where the trader hires an entire warehouse and moves produce in and out it is necessary to know the average number of containers/kilograms in store during the period for which the store is hired. An example of this calculation is shown in exhibit 12.8.

There will usually be quantity losses while produce is in store. This may be deliberate, for example when grain is dried so that it will store better, or accidental, due to bad storage. With fresh produce some quantity loss is almost inevitable, however efficiently it is stored. Physical losses in storage need to be treated as costs in the way previously outlined. Quality losses are also inevitable and for the trader these are reflected in the prices he or she receives. As stated earlier, it is important to get an accurate estimate of the weighted average price at which stored produce is eventually sold.

Assume
that
a
warehouse
is
hired
for
120
days
of
the
year
at
a
total
cost
of
\$600
and
that
the
weighted
average
contents
are
250
bags
of
potatoes.
Then
the
storage
cost
is:-

$$\frac{\$600}{120 \text{ days}} = \$5.00 \text{ per day}$$

$$\frac{\$5}{250 \text{ bags}} = \$0.02 \text{ per bag/day}$$

Exhibit 12.8 Calculating storage costs

It is easy to ignore the fact that produce while in store incurs a financial cost for the trader. To do so, however, would give a totally inaccurate impression of marketing costs. An example of a realistic calculation of storage costs including additional costs such as bank interest is shown in exhibit 12.8. This example assumes that there is no loss. However, a four-month period of storage will almost certainly lead to some losses and these need to be built into the calculations.

Exhibit 12.9 Calculating storage costs over time

Assume that a trader buys potatoes at \$10 per bag and keeps them in store for 4 months. To do this he has to borrow money at 12 percent per year.

Then the cost of bank interest is:

$\$10 \times 0.04$ (12% p.a. over 4 months) =
\$0.40 per bag.

Thus a realistic calculation of storage costs per bag for the consignment of potatoes is:

Storage charge for 120 days at \$0.02 per day	= \$2.40
Interest charge of \$0.40 per bag	= \$0.40
Total cost per bag	= <u>\$2.80</u>

Processing costs

The transformation of a produce from one form to another clearly involves costs associated with the operation of the processing facility. In calculating marketing costs, it is necessary to consider two other important aspects of processing costs. Firstly, as with product losses, one kilogram of product purchased from the farmer cannot be compared with one kilogram of processed product sold to the consumer. There is need to ask. How much will be sold to the consumer if one kilogram is bought from the farmer?' Secondly, there may be a by-product as a result of the processing and this by-product can often be sold. The value of the by-product must therefore be included in the calculations.

The cost of the food in very sophisticated processed food products sold in supermarkets (for example "ready-to-eat" meals) can be a very small proportion of the retail selling price, sometimes less than ten percent Processing, packaging and other marketing costs absorb the rest. However, here only the cost of primary proceedings is considered.

Some examples of primary processing are:

- paddy into milled rice (conversion at 65–70 percent, by-product bran)
- maize into maize meal (conversion at 65–85 percent depending on quality of meal, by-product bran)
- green tea into black tea (conversion rate 28–32 percent, no by-product)
- cotton into lint (conversion rate 30–35 percent, by-product cotton seed)
- cherry coffee into green bean (conversion rate approximately 18 percent, no by-product)
- copra into coconut oil (conversion rate 60–65 percent, by-product copra cake)
- soya beans into oil (conversion rate 18 percent, by-product soya meal) and
- oil palm into palm oil (conversion rate 18–24 percent, by-products palm kernels and oil palm cake).

In calculating processing costs it is necessary to know the conversion rate, the quantity of by-product, the value of that by-product and the costs of processing. An example of such a calculation is shown in exhibit 12.10.

Exhibit 12.10 Calculating processing costs

Assume that a rice milling operation converts paddy at the rate of 70% (0.7) and has saleable by-products equal to 25% of the paddy weight. Processing costs per kilogram of paddy have been calculated at \$0.20 per kilogram on the basis of the mill's total annual costs divided by the number of kilograms of paddy processed. The buying price of the paddy was \$1.50 per kilogram and the by-products have a value of \$0.50 per kilogram.

Then the processing cost per kilogram of paddy is:

One kilogram of paddy purchased	= \$1.50
Processing costs i.e. 1 kg × \$0.20	= \$0.20
Total Costs	= <u>\$1.70</u>
Less by-product revenue of 1 kg×0.25×\$0.50	= \$0.12
Break even selling price per kilogram of paddy	= \$1.58

Thus the break even selling price per kilogram of milled rice is:

$$\$1.58/0.7 = \$2.25$$

Of course, it will not always be possible to obtain reliable information on a miller's costs. These will include not only operating costs such as fuel, maintenance and repair but also labour costs, the cost of the capital investment in the mill and its premises, and the opportunity cost of the owner's time. Calculating total costs from all these individual costs cannot be realistically done by an extension worker. However, he or she can perhaps get information about milling costs. Ministries of Agriculture may have model budgets for mills, according to their size, as may banks which lend money to mill owners. These can be modified according to circumstances and throughput of the particular mill.

Capital costs

Capital costs are a major component of marketing costs. Such costs will vary from country to country depending on the level of interest rates. They include:

- the cost of money needed to buy produce and keep it in store. Many small traders buy produce, sell it and use the proceeds to buy more, so their needs for operating capital are limited. Traders who buy produce and store it for lengthy periods will, on the other hand, have sizeable operating capital requirements. In some countries traders buy from farmers in advance of the harvest, that is they buy the "field" or the "tree". Thus they will have to finance the produce they buy for even longer periods and their marketing costs will, consequently, be higher.
- the capital cost of a warehouse or a truck if the trader owns them
- the capital cost of other buildings or of equipment, such as office space, weighing scales, grain drying equipment and
- the depreciation (or loss of value) of the vehicle, warehouse or equipment owned by the trader, miller, or other party.

The calculation of capital costs for a small consignment of produce is far too complex an operation when the aim of the exercise is simply to work out marketing costs of vegetables from a group of farmers to a nearby urban market. It is best to use commercial rates for the hire of services, such as transport rates, storage rates or contract milling charges, even if the trader is

using his own vehicle or other facilities. These commercial rates will already have capital costs built in by the trucker, warehouse owner or others.

However, extension workers may be asked to advise a Cooperative on whether to build a store, construct a maize mill or purchase a truck. Under these circumstances it is necessary to compare the capital and depreciation costs with the expected annual return from the Cooperative's activities after the direct operating costs have been covered. Capital costs are the interest paid to the bank on the loan. Assuming interest rates stay constant, this interest can be estimated in advance on a yearly basis if the proportion of the "principal" (that is, the total amount borrowed) paid back every year is known.

Depreciation can be calculated on a "straight line" basis. Here, the life of the vehicle or building is estimated and its cost, minus its "salvage" or "scrap" value at the end of its working life, is divided by the number of years of its life to get the annual depreciation. An alternative, and more accurate approach, is to assume depreciation at a fixed percentage per year. In this way the value goes down more rapidly in the early years than later. If, for example, a \$10,000 truck is depreciated at 10 percent then the depreciation in the first year is \$1,000 and in the second year \$900 (that is 10% of \$10,000 – \$1,000).

Case 12.3 Market Gardening In Sierra Leone - Twice As Much Business But Half As Much Profit

Kallu operated a small-holding some 10 km from Sierra Leone's capital Freetown. The land was suitable for growing a range of vegetables. Unlike his neighbours, Kallu invested, albeit modestly, in irrigation technology and land improvement. He also purchased superior quality imported seeds and manufactured fertilizers rather than rely upon poor quality seeds and chicken manure. Consequently, Kallu was able to grow high quality vegetables which he could sell for higher prices than his neighbours could achieve.

Kallu sold his produce direct to retailers in Freetown whereas most other farmers sold to wholesalers. The retailers paid Kallu around two-thirds of the final consumer price whilst the wholesalers were paying about half of the final consumer price to farmers. Kallu saw an opportunity to supplement his own produce by purchasing vegetables from other farmers. He was finding it increasingly difficult to meet the demand for his own produce and he could afford to pay the other farmers a better price than that offered by the wholesalers and still make a profit when reselling to retailers. Kallu encouraged some of his neighbours to adopt his husbandry methods in the hope that they could supply produce of similar quality to his own.

However, this was not altogether successful and some of Kallu's customers registered complaints that there was a variation in produce quality which had not occurred previously. Kallu became increasingly involved in teaching and demonstrating production methods to his produce suppliers. He also began purchasing quality seed which he sold to his neighbours at cost. Even then, because they had not invested in irrigation, Kallu's suppliers could not grow produce all year-round as he could. Eventually, Kallu found himself working twice as hard for half as much reward. His records showed that over a four year period his sales had doubled but his profits had halved⁸.

Summary

The measures used in assessing performance of a marketing system tend to vary with the

perspective of the individual, group or organisation carrying out the assessment. That is, producers, traders, processors, consumers, government and society at large are likely to look for different things from a marketing system and so the criteria by which they judge it are also likely to differ.

Marketing systems can be effective without being efficient. Effectiveness relates to the achievement of goals without consideration of the cost. Marketing efficiency is the ratio of inputs to outputs. Typical inputs are land, labour, capital and raw materials whilst common outputs are service levels, specific volumes of products delivered to the customer and the provision of a given level of satisfaction. Marketing efficiency is principally comprised of operational efficiency and pricing efficiency. Operational efficiency is increased when marketing costs are reduced whilst outputs are either maintained or expanded. Pricing efficiency is concerned with the efficient allocation of resources by a marketing system. The concept of pricing efficiency is only relevant to competitive markets. The price mechanism directs resources to where there is effective demand and where maximum economic returns can be earned from those resources.

Care has to be taken in drawing conclusions from such measures as the farmer's share of the consumer price and the far-retail price spread. These figures, if considered on their own, are likely to be misleading when used to assess the efficiency or fairness of a marketing system. For example, a given market participant's share of the consumer's dollar may be low because provide few marketing services (or he/she add little value) or may be arithmetically low, as a percentage, but achieve reasonable returns since the retail price of the product is high. What is important is not the percentage of the final price which is received but the total return from the provision of products and marketing services.

The reference product concept is important for purposes of comparing the performance of market participants who may be operating at different stages of the marketing channel from one another. The finished product as delivered to the end user can serve as the reference point. For instance, using the reference product concept allows the market analyst to compare the marketing costs of bread and wheat. Due to wastage and processing methods, 1 kg of wheat will not convert to 1 kg of bread. Taking bread as the reference product and recording its costs and margins, it is possible to establish how much wheat is required in order to supply 1 kg of bread. The costs and margins of raw materials and semi-finished products can then be adjusted so that direct comparisons can be made between these and the finished product. The reference product concept also takes into account product losses, the creation of by-products, transport, storage, handling, packaging and capital costs.

Key Terms

By-products	Marketing margin	Price spread
Conversion rates	Marketing costs	Pricing efficiency
Conversion ratios	Marketing margins	Reference product
Economic efficiency	Operational efficiency	Shrinkage

Review Questions

1. Explain what is meant by the efficiency of a marketing system
2. Under what circumstances might a reduction in marketing costs actually lower marketing efficiency?
3. Briefly explain the phrase, the farm-retail price spread.
4. Name the 3 measurements of marketing performance which are mentioned in this chapter.
5. What is the alternative name for 'the marketing margin'?
6. What are the 4 pre-conditions of the usefulness of pricing efficiency measures?

7. Briefly discuss the principal mistakes that you believe were made by the Colombian flower growers
8. Describe the main categories of storage cost.
9. With reference to case 12.3 outline why you think Kallu found himself working twice as hard for half as much profit.
10. What functions does Wimalajeewa perform to earn his commission (see case 12.2)?.

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GLOSSARY OF MARKETING TERMS

Added value. Value is said to be added when the utility of a product or service is increased.

Administered prices. Where prices are imposed on one or more levels of the marketing chain by some external body.

Advertising. A form of communication which a sponsor pays to have transmitted via mass media such as television, radio, cinema screens, newspapers, magazines and/or direct mail. It is intended to both inform and persuade.

Agricultural commodity. Agricultural products whose production methods, postharvest treatments and/or primary processing have not imparted any distinguishing characteristics or attributes. Within a particular grade, and with respect to a given variety, commodities coming from different suppliers, and even different countries or continents, are ready substitutes for one another.

Auction. A system of trade in commodities in which prospective buyers and sellers are brought together under the auspices of an independent auctioneer who invites bids for the products or produce offered for sale.

Audits. Used in the context of marketing research, audits are systematic counts of the amount of product which has passed through a warehouse (warehouse withdrawal audit) or retailer (retail audit).

Augmented Product. The services and benefits which are added to the basic physical product to enhance its value to the prospective customer.

Boston Consulting Group (BCG) product portfolio analysis. An approach to portfolio analysis based on the premise that a positive relationship exists between market share and profitability. These two variables are used to classify products as rising stars, cash cows, sick dogs and problem children.

Brand. A name, term, symbol, or design or combination of these which is intended to differentiate products or services from those of competitors.

Brand image. The set of attributes, characteristics and benefits which a brand is perceived to possess.

Brand loyalty. The tendency to repeatedly buy a particular brand on a high percentage of possible purchase occasions..

Breakeven point. The point at which, at a given selling price, sales volumes are just sufficient to cover the organisations fixed and variable costs.

Brokers. Individuals or organisations which do not take title to goods but facilitate distribution by bringing buyers and sellers together. Brokers earn a commission for informing buyers of possible sellers; and informing sellers of possible buyers. Clients use the services of a broker intermittently since their supply of the product to the market is intermittent.

Business policy. A coherent set of rules established to guide managers in their decision making by prescribing the boundaries of the alternative courses of action leaves open to him/her within a defined set of circumstances.

Cannibalisation. Where the sales of a new product are gained at the expense of the marketing organisations existing products.

Cash cows. Products which enjoy a high market share, in a low growth market and that generate large cash inflows. The owner of the product milks the revenues from this cash generator to finance other products within its portfolio.

Change agent. An individual who purposively seeks to bring about a change in the behaviour of a target group of people in a direction deemed desirable by a change agency.

Channel of distribution. The set of individuals and organisations which facilitate the transferring title to goods or services as these pass from the producer to the user.

Cognitive dissonance. An uncomfortable psychological state resulting from differences between expectations and experience. In the context of product marketing, cognitive dissonance arises when a buyer's experience of the performance of a product fails to match up to prior expectations of the performance of that product.

Commodities. (See agricultural commodities).

Competitive parity method. A system of setting budgets for marketing communications in which the strategy is to match the expenditures of immediate competitors.

Connotative brand names. Brand names designed to conjure up certain images in the mind of the prospective customer. An example would be 'Tropical Paradise Fruit Juice', which might conjure up images of sun drenched, exotic places as well as fun, luxury, exclusivity etc.

Core benefit. The need which a product fulfills or the problem which it solves.

Corporate strategy. An articulation of an organisation's overall objectives and the means by which these are to be met. Corporate strategy is usually stated in such a way as to convey the reason for an organisation's existence i.e. its mission and the business it is in or wishes to be in.

Cost per thousand (CPM). The cost of reaching one thousand members of the target market with a particular advertisement or promotional activity, this measurement is commonly used in the selection of appropriate media.

Culture. The mechanism by which each society evolves its distinctive behavioural patterns and values and transmits these to subsequent generations.

Dairy panel. A sample of households or individuals who agree to maintain a written record of product/service consumption and/or usage for a prescribed period of time. The diaries are periodically inspected by marketing researchers.

Demographics. Objective characteristics used to describe populations, such as age, income, education and geographical location. Demographic variables are commonly used in marketing for the purposes of market segmentation.

Denotative brand names. Brand names which are literal and explicit in conveying some tangible characteristic of the product. An example would be 'Sweet Cure Bacon' which denotes a bacon with a sweet taste.

Differentiated marketing. The strategy of pursuing several market segments with particular marketing mixes tailored to the needs of each segment.

Direct product profitability. The allocation of all distribution costs to specific products then

comparing these against standard costs with a view to identifying and eradicating inefficiencies within the distribution system. In addition, since DPP has the potential to pinpoint the costs of delivering specific products to specific customers, it also has the potential to help in devising cost effective marketing strategies.

Distribution Requirement Planning. The application of the techniques of Manufacturing Resource Planning to warehousing and transportation activities.

Distribution intensity. See *intensity of distribution*.

Economic efficiency. The product of allocational and operational efficiency. Allocating resources on the bases of opportunity cost increases the value of current output. Operational efficiency is increased when unit costs of production are minimised through efficient management and the adoption of the appropriate technology

Economic order quantity (EOQ). The optimal size of order to place at which the sum of the order processing costs plus inventory carrying costs result in the minimum total inventory costs.

Economic stabilisation programmes. See *stabilisation programmes*.

Economic structural adjustment programmes (ESAPs). See *structural adjustment programmes*.

Economies of scale. Increased efficiency of operations and the multiple use of resources lowers average variable costs and, in consequence, average total costs.

Elasticity of demand. Price elasticity of demand is a measure of the responsiveness of buyers to price changes. Income elasticity of demand reflects the extent to which demand is affected by changes in income levels. Cross-elasticities indicate the impact of a change in the price of good A on the demand for good B.

Elasticity of supply. A measure of the responsiveness of producers to price changes. Cross-elasticities indicate the impact of a change in the price of good A on the supply of good B.

Elevator. (See grain elevator).

Equilibrium point. The price at which the quantity supplied by sellers equates to the quantity demanded by buyers.

Exclusive distribution. An extreme form of selective distribution in which intermediaries are granted the exclusive right distribute a product within in a geographic region.

Extensive distribution. Making the product or service available in as many distributive outlets as an organisation's resources will allow.

Family brands. The assignment of the same or similar names to several products made by the same enterprise in which the name of the enterprise is often employed.

Fixed Costs. Those costs whose level is wholly independent of the level of production.

Fixed-sum-per-unit method. A method of setting marketing communications budgets as a specified sum of money per unit sold or produced.

General electric product portfolio analysis. An approach to product portfolio analysis which includes variables such as ease of competitive entry, production efficiencies, ability to exploit market opportunities and market attractiveness.

Generic products. Unbranded products.

Grain elevator. A granary, equipped to handle and store grain. Many grain elevators are also equipped to clean and grade the grain.

Harvesting strategy. An attempt to reap short-term profits, from a product, by reducing its marketing and production costs to a minimum before withdrawing it from the market.

Hierarchy of effects. That sequence of cognitive, affective and connotative psychological states through which a potential buyer is said to proceed before purchasing.

Horizontal marketing systems. Systems in which two or more unrelated companies, at the same channel level, combine resources and expertise in order that the partners can achieve some goal that individually they could not.

Impulse purchase. Purchases which have not been pre-planned but are made as an immediate response to exposure to the product or service.

Industrial marketing. The marketing of goods and services that are used as inputs to a production process. Thus, demand for industrial goods and services is derived from the demand for the goods or services which they are used to produce.

Intensity of distribution. That proportion of all available distributive outlets through which an enterprise actually distributes its product(s) or services. The distribution of a product or service may be extensive, intensive or selective.

Inventory carrying costs. Those costs wholly due to carrying a given amount of stock, including: storage charges, interest on capital invested in stocks, insurance, taxes, shrinkage and opportunity costs

Just-In-Time (JIT). A system of materials management intended to ensure that components and raw materials arrive at the manufacturer's or processor's factory at the precise time they are required for production or processing. JIT can also be applied to the control of finished products ensuring that they arrive at a sales outlet close to the time when they are expected to be sold.

Life style. (See psychographics).

Load planning. A systematic approach to matching customer orders to the available transport facilities with a view to controlling costs whilst achieving an acceptable level of customer service.

Logistics. Marketing logistics relate to the cost effective, physical distribution of goods and services to intermediaries, final buyers and end-users.

Marketing audit. A periodic and rigorous review of marketing policies, strategies and tactics with a view to assessing their appropriateness to the prevailing and future marketing conditions and opportunities.

Marketing board. A grower organisation, government agency and/or statutory organisation having the function of intervening in the marketing process with a view to serving the cause of efficient and orderly marketing.

Marketing concept. A business philosophy which places emphasis on achieving organizational goals through the identification and satisfaction of customer needs.

Market niche. A small homogenous segment of the market with special needs or characteristics that can be profitably met by organisations who have limited resources and cannot directly challenge market leaders.

Marketing environment. Forces which impinge upon an organisation's business activities that are outwith the direct control of that organisation (e.g. macroeconomic trends, political initiatives, regulatory frameworks, demographic patterns and cultural norms).

- Marketing information system.** The bringing together of people, technology and procedures with the purpose of collecting data from the marketing environment, as well as from within the organisation itself, and converting this into information to improve marketing decisions.
- Market segmentation.** The process of subdividing large heterogeneous populations, with disparate needs, into smaller more homogenous groups with similar needs in order that market offerings can be closely matched to these needs. Those segments which an enterprise elects to serve are termed 'target markets'.
- Marketing mix.** The combining of those marketing variables over which an organisation has control in such a way as to achieve its business objectives within a target market.
- Marketing planning.** That set of management activities involving the setting of marketing objectives, designing and implementing a programme to achieve these objectives and a monitoring and control mechanism to ascertain whether the planned programme is on track or has achieved its desired objectives. Marketing planning is a principal component of corporate strategy.
- Market prices.** Prices which have been determined by the unimpeded (free market) interactions between supply and demand.
- Markov chain models.** A way of describing a phenomenon moving from one state to another. These probabilistic models are used by marketers to describe and predict the movement of buyers from one brand to another.
- Mark-on (or Margin).** The per unit profit expressed as a percentage of the selling price of the unit.
- Mark-up.** The per unit profit expressed as a percentage of the cost of the unit.
- Marginal analysis.** A technique used to determine the point at which marginal revenues equal marginal costs and give rise to maximum profits.
- Marginal cost.** The amount by which one additional unit of production increases total variable cost and, therefore, total costs.
- Marginal revenue.** The additional revenue obtained from supplying one more unit of a product.
- Materials management.** Management of physical supply operations such as procurement, the storage and movement of raw materials to and through processing and into a finished product.
- Materials requirement planning.** A computerised inventory control system based on the Japanese Kanban card system. It is intended to minimise the investment in manufacturing/processing materials and components, consistent with matching production levels to current demand.
- Motive.** An impulse to act in such a way as to bring about the meeting of a specific need.
- Need.** A perceived difference between an ideal state and some desired state which is sufficiently large and important to stimulate a behavioral reaction.
- Objective-and-task method.** An approach to the setting of marketing communication budgets in which the organisation begins by specifying its communication objectives and then estimates how much it will cost to achieve those objectives.
- Order processing costs.** Those costs associated with the administration of placing orders, shipping and good inward controls.
- Penetrating the market.** Profit objectives are achieved through gaining a sizeable sales volume and a modest margin rather than having a large margin per unit.

Percentage-of-sales method. The practice of setting marketing communications budgets as a percentage of either last year's sales or forecasted sales for next year.

Personal selling. Direct and personal approaches to potential customers with a view to persuading the individual or organisation to purchase the product or service.

Physical distribution. That set of activities concerned with the efficient flow of raw materials, in-process inventory, and finished goods from source to point-of-consumption in such a way as to profitably meet customer needs.

Price spread. The price spread measures the gross percentage of the final retail price which accrues to each category of participant in a marketing system in return for the marketing services which they perform.

Primary research. Primary research is that which has been specifically designed to address particular marketing problems or questions.

Product class. The collective set of brands of a product or service, available on the market to meet a particular basic need.

Product life cycle (PLC). The phases of a product's life span introduction, growth, maturity and decline.

Product line. A group of products whose relationship is based on the similarity of their function, target market, distribution channel(s) and/or their price range.

Product differentiation. The process of convincing the potential customer that a company's product differs significantly and in some superior way to that of other products seeking to meet customer needs within the same market segment.

Promotion. Promotion is the function of informing, persuading and influencing the customers' purchase decision.

Psychographics. Variables such as social class, personality and life style (attitudes, interests and opinions) which can be used to segment markets.

Public relations. Activities intended to create a favourable image of an organisation among its publics and to foster mutual understanding between the two. An organisation's publics includes any group having an actual or potential interest in, or impact upon, an organisation's prospects of achieving its goals.

Pull Strategy. Where the majority of the marketing effort is directed at end users in the hope that the resultant demand will be strong enough to pull the product through the channel of distribution.

Push strategy. Where the greater part of the marketing effort is directed at intermediaries in an attempt to persuaded channel members to push the product through the channel from producers to end users.

Residual-sum method. The determination of marketing communications budgets on the basis of what the organisation perceives itself to be able to afford after all other budgets have been set.

Revenue pooling. Where the product is sold at market prices, but revenues are pooled before being disbursed to producers, processors and/or middlemen. The system results in all parties in the scheme receiving the same price.

Sales agents. Sales agents do not take title to the goods but bring buyers and sellers together. Sales agents often have close, long term relations with particular clients and sell on their behalf in return for a commission. The sales agent behaves as an extension of the client's own sales organisation.

Sales promotion. Incentives intended to encourage immediate sales of a products or services. The effects of promotion are characteristically short term and therefore sales promotion is a tactical marketing instrument.

Selective distribution. The appointing of a limited number of specially selected retailers, or other middlemen to distribute a product line.

Secondary research. This term describes data which has been collected by individuals or agencies for purposes other than those of a given research study.

Shrinkage. Losses in the value of stocks held due to spoilage, deterioration, or pilfering during storage and/or transportation.

Skimming the market. Profit objectives are achieved through a sizeable margin per unit rather than by maximising sales volumes.

Social marketing. The process of identifying human needs in non-competitive economies and/or sectors of society and determining the means of efficiently and effectively delivering products and services to meet these needs.

Stabilisation programmes. IMF sponsored economic recovery programmes intended to stimulate the demand side of the economy. Stabilisation policies work to reduce a country's expenditure levels to match national income. They provide the economic stability necessary before increased growth can be achieved. The policy instruments typically employed in the pursuit of economic stabilisation are: exchange rate policy, fiscal policy and monetary policy.

Stakeholders. Those individuals or groups who affect and/or are affected by, the operations of the organisation including, consumers, members of the channel of distribution channel, suppliers, the general public, shareholders and government.

Stockouts. A failure to fulfill an order from inventory.

Strategic business units (SBUs). A business entity belonging to a larger commercial enterprise but having its own defined business strategy and whose management has responsibility for its profits and sales performance. The concept of a strategic business unit has its origins in large and diversified commercial companies. It was developed as a means of retaining the vitality of the entrepreneurial spirit by giving management a high degree of responsibility and autonomy in decision making.

Structural adjustment programmes. A suite of macro-economic policies, sponsored by the World Bank, designed to improve the structure of production by allocating resources in accordance with their opportunity cost rather than on any other basis and thereby maximising the efficiency of resource allocation, increasing the value of current output and improving the prospects for the rate of growth over time and avoiding the need for subsidies and taxes in support of the production structure. (Also termed ESAPs or Economic Structural Adjustment Programmes).

Syndicated research. The collection of marketing data using standardised procedures which is then sold to a number of different clients.

Tactics. The pursuance of a marketing plan to achieve short term objectives.

Tangible product. The physical features and characteristics perceived through the 5 senses - touch, smell, taste, vision and hearing.

Target market. Those segments of a market which an organisation decides it will attempt to serve. Each target group of customers has similar needs and/or characteristics and if successfully penetrated will help the organisation achieve its marketing objectives. (see also 'market segments').

Test market. The trial launch of a new product or service into a confined geographical area or market segment with the purpose of testing the performance of the proposed marketing mix prior to the full scale market introduction.

Tied-agreements. Agreement whereby an intermediary wishing to become the exclusive dealer for a given product must also carry others within the supplier's product line.

Trademark. A brand or part of a brand that to which a seller has a legally enforceable, exclusive, right to use.

Trading up. The process of moving consumption to higher priced versions of a product.

Uniformed delivered pricing. Where all buyers pay the same price for the product irrespective of differences in their physical distance from the source of supply

Universal Product Code (UPC). A set of numbered vertical bars appearing on the labels or packs of goods and which can be read by scanner systems. These numbers and bars constitute a code containing such information as country of origin, supplier, product category, product size, pack type and price.

Variable costs. Those costs which vary directly with the level of production.

Vehicle scheduling models. Mathematical models which help management route transport vehicles in such a way as to minimise both the time taken to make deliveries and total transport costs of deliveries. Examples of mathematical models are; the savings method, the simplified delivery service model and TRANSIT.

Vertical marketing systems. A system in which the producer(s), wholesaler(s) and retailer(s) act as a unified system with a resultant increase in efficiency of the system through the removal of duplicated services, economies of scale and reductions in potential conflicts of interest.

Wholesalers. Intermediaries acting to make marketing systems more efficient by buying a variety of products, in fairly large quantities, and selling these items on to other businesses who require relatively small quantities of a variety of goods.

Zone pricing. A pricing scheme which results in all customers within a defined geographical area paying the same price with different prices being paid by customers located in other geographical areas.





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